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ABSTRACT

This report by the United States General Accounting Office (GAO) summarizes research findings on what has and what has not been successful in schools and workplaces. Studies concerning successful organizations (elementary and secondary schools and firms in a wide range of businesses) and successful practices were reviewed. Most of the reviewed materials were published in 1990 or later. The studies were of uneven quality and used a variety of research designs and techniques. Findings indicate that successful schools and company workplaces had well-defined missions. They organized the work environment, human-resource practices, curriculum and instruction, or management processes in ways that supported that mission. The missions in schools focused on student learning. In company workplaces, successful work environments typically developed a set of core organizational values that were transmitted to all employees, fostering a sense of community throughout the organization. The extensive appendices contain annotated bibliographies of research on schools (N=41) and workplaces (N=50), which are categorized according to work environment, human resources, curriculum and instruction, and management practices. Lists of GAO contacts and staff acknowledgements are included. (LMI)

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United States General Accounting Office

GAO

Report to the Chairman, Subcommittee on Oversight and Investigations, Committee on Economic and Educational Opportunities, House of Representatives

August 1995

SCHOOLS AND WORKPLACES

An Overview of Successful and Unsuccessful Practices

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GAO

United States
General Accounting Office
Washington, D.C. 20548

Program Evaluation and
Methodology Division

B-262061

August 31, 1995

The Honorable Pete Hoekstra
Chairman, Subcommittee on Oversight
and Investigations
Committee on Economic and Educational
Opportunities
House of Representatives

Dear Mr. Chairman:

The nation's well-being depends on its ability to create and sustain well-paying jobs and to improve the performance of U.S. business in an increasingly complex world economy. For more than a decade, Americans have been concerned that the nation is not doing all that is needed to meet these challenges. They have focused this concern especially on the quality of education provided by elementary and secondary schools (particularly those attended by disadvantaged students) and on the productivity and performance of workers and their employers. You asked us to help you address these issues by summarizing research findings on what has and what has not been successful in schools and workplaces.

Objectives, Scope, and Methodology

To provide the information you requested, we reviewed a large number of reviews and studies concerning successful organizations (elementary and secondary schools and firms in a wide range of businesses) and successful practices, as well as the relatively few studies on practices that do not work. We focused on practices at the organizations' sites that shape the work environment and human resources within the school or business workplace, and we also examined general curricular and instructional practices in schools and general management processes in the business workplace. We did not examine how practices are shaped by public policy, nor did we attempt to cover specific instructional or business practices (such as particular methods of teaching reading or managing inventory). Annotated bibliographies appear in appendix I (on schools) and appendix II (on workplaces).

We relied on the most recent reviews and studies available. With few exceptions, the materials we examined were published in 1990 or later. We identified the reviews and studies by searching compendia compiled by relevant federal agencies (the Office of Educational Research and Improvement and the Planning and Evaluation Service, both in the

Department of Education, and the Office on the American Workplace in the Department of Labor); peer-reviewed professional journals in education, management, and industrial relations; and citation indexes. Given the normal limitations on such searches and the relatively short time period for meeting the subcommittee's needs, we cannot be sure that we identified every relevant publication. However, we believe that our review covers most of the major issues and practices for which evidence is available.

We searched for studies linking school or workplace practices to particular, commonly used criteria of success. For schools, these criteria were (1) student achievement at or above the expected level, (2) high teacher and student engagement in learning activities, and (3) effectiveness in overcoming disadvantage, such that students who are behind when they enter school are able to catch up. The criteria for workplace success were (1) increased profitability, (2) improved productivity, and (3) high performance in the workplace.

We selected studies that used valid and reliable measures of both the success criteria and the implementation of particular practices. We gave preference to findings that could be generalized to other schools and workplaces. For some of the success criteria, however, few studies met all these standards. Therefore, we included studies that had technical limitations (such as small sample size, low response rates, or surrogate outcome measures) and even some that simply summarized experts' conclusions without providing supporting data. The annotations in the bibliographies describe these limitations.

In using the bibliography, readers should bear in mind that the studies are of uneven quality and that every study design has its strengths and weaknesses, so that findings from a single study should be interpreted with caution. For example, nationally representative sample surveys can provide reliable estimates of how widely a practice is used and how strongly it is associated with an indicator of school or business success, but they typically cannot establish a causal link between a practice and its outcome. Case studies of one firm or type of school can provide insights into how a practice works in a specific context, but their findings cannot necessarily be extended to businesses or schools generally.

Given the limited time available and the diversity of measures and designs used in the studies, we did not attempt a meta-analysis. Rather, we drew from the studies what we judged to be the most significant and consistent

findings—findings supported by a variety of sources—to highlight in this report. We conducted this review from March through June 1995 in accordance with generally accepted government auditing standards.

Summary

Successful schools and company workplaces had a well-defined mission: they knew what they wanted to accomplish. They organized the work environment, human resource practices, and curriculum and instruction or management processes in ways that supported that mission. The evidence that we reviewed consistently demonstrated the need to integrate mission and key practices. No one practice, by itself, seems to ensure success.

The missions in schools were focused on student learning. Work environment practices consistent with this included providing safe and orderly sites, encouraging parents' involvement and collaboration among staff, fostering leadership for instructional improvement, and authorizing school-level problem solving. Human resource practices included school-based control over entry and exit of staff and students and the encouragement of professional development. In terms of curriculum and instruction, successful schools established academically rigorous and well-focused curricula, provided effective and engaging instruction, exposed all students to challenging curricula and instruction, and ensured that students who needed extra assistance were given opportunities for success.

In company workplaces, successful work environments typically developed a set of core organizational values that were transmitted to all employees, fostering a sense of community throughout the organization and encouraging meaningful employee participation in work-related decisions. In addition, successful companies tended to adopt human resource policies that featured minimizing job disruption and providing education and training programs for employees, widely available profit-sharing and gain-sharing plans, and a reward structure that was perceived as fair and understandable. Also, successful companies that went through downsizing or otherwise made significant changes in company operations made efforts to retrain employees or provide assistance in obtaining other employment.

We have previously reported on organizational culture and human resource issues such as managing workforce reductions and using employee stock ownership plans. In addition, we have reported on a wide range of management practices such as total quality management.

organizational reengineering, and other innovations such as benchmarking and performance measurement. Abstracts of these reports are in appendix II.

Agency Comments

Responsible officials from the U.S. Department of Education and the U.S. Department of Labor provided written comments on a draft of this report. Officials from both departments agreed that our findings are consistent with current knowledge of effective practices in schools and workplaces.

As we arranged with your office, unless you publicly announce the report's contents earlier, we plan no further distribution of it until 30 days after the date of this letter. We will then send copies of this report to the Secretary of Education, the Secretary of Labor, and others who are interested. We will also make copies available to others on request. If you have any questions or would like additional information, please call me at (202) 512-2900. Other major contributors to this report are listed in appendix III.

Sincerely yours,

Joseph F. Delfico

Joseph F. Delfico
Acting Assistant Comptroller General

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Abbreviations

DOL	U.S. Department of Labor
ESOP	Employee stock ownership plan
GAO	U.S. General Accounting Office
SAT	Scholastic Achievement Test

Schools: Annotated Bibliography

Work Environment

Bryk, Lee, and Holland	Anthony S. Bryk, Valerie E. Lee, and Peter B. Holland. Catholic Schools and the Common Good. Cambridge, Mass.: Harvard University Press, 1993.
Setting	Catholic secondary schools that enroll mainstream students, including disadvantaged students.
Source of Information	Quantitative analyses of national data on public and Catholic and other private schools from the High School and Beyond studies of students, teachers, and administrators. Case studies of seven diverse Catholic high schools in the early 1980s with a brief update to the early 1990s.
Findings and Conclusions	Features distinguishing Catholic from public high schools include smaller size, academic focus, and inclusion of all students in the core academic curriculum. Curricula are standard academic fare and teaching is largely "ordinary." Nonetheless, student engagement, satisfaction, and achievement exceed those in public schools, especially for disadvantaged students. Student self-selection and greater participation in academic courses account for some of the difference. But communal organization (shared values, shared academic and other activities, engagement between children and adults, and collegial interaction) is also critical. Catholic schools also exhibit greater autonomy than public schools, "effective" organizational practices such as principal's leadership and faculty professionalism, and responsiveness to the private education market. However, data from non-Catholic private schools suggest that these organizational features by themselves, without the kinds of values and social equity aims that undergird Catholic schooling, do not produce the higher achievement and lower dropout rates of at-risk youths in Catholic schools.
Comments	Students (disadvantaged or otherwise) in Catholic high schools are somewhat academically oriented. It is not known whether the Catholic school approach would work equally well in schools with high concentrations of disadvantaged students.

Work Environment

Bryk, Lee, and Smith

Anthony S. Bryk, Valerie E. Lee, and Julia B. Smith. "High School Organization and Its Effects on Teachers and Students: An Interpretative Summary of the Research." In William H. Clune and John F. Witte (eds.). Choice and Control in American Education. Vol. 1. The Theory of Choice and Control in Education. New York: The Falmer Press, 1990.

Setting

High schools in general.

Source of Information

Empirical and analytical literature on high school organization and curricula and their effect on teachers and students.

Findings and Conclusions

School features and practices that foster teacher effort and satisfaction and student engagement and learning include

1. Size large enough to offer adequate instruction but not so large as to impede social relations.

2. A nucleus of motivated and academically able children to provide a stable institutional base and avoid discipline problems and an anti-academic peer culture.

3. Parents who provide high expectations and home support for learning.

4. Management control over student and faculty entry, socialization, and exit.

5. Management that facilitates informal social interactions, buffers the core work of the school against external disruptions, communicates information and allocates resources efficiently and informally, administers rules justly and fairly, and monitors staff and directs its development to coincide with teacher goals and foster collegiality.

6. Teachers who influence students' social and personal development, not just academic learning.

7. A cooperative work ethic and collaboration among staff.

8. A curriculum in which all students—not just the most able—take academic courses and receive stimulating instruction.

Work Environment

Hanushek

Eric Hanushek. Making Schools Work: Improving Performance and Controlling Costs. Washington, D.C.: The Brookings Institution, 1994.

Practice

School governance and management; teacher certification, pay systems, and training.

Source of Information

Literature reviews by economists with a broad spectrum of views who are long-term students of education.

Findings and Conclusions

Conventional wisdom holds that education can be improved by reducing class size, lengthening the school year, or hiring teachers who have more education and experience. The evidence does not bear this out.

Performance incentives may improve productivity, but designing workable incentive systems has proven elusive. For example, the success of performance contracting—contracting with an independent firm for specified achievement results—depends on writing a good contract, which is difficult to do. Merit pay for teachers is also difficult to implement. Most attempts have been underfinanced and have boiled down to extra pay for extra duties.

School-based management is often seen as an end in itself rather than as a way of improving student performance. Many school-based management programs have lacked clear goals, performance improvement incentives, and accountability mechanisms. Few programs have been evaluated in terms of performance, and few evaluations have shown achievement gains.

Choice plans take a variety of forms, from magnet schools to tuition tax credits or vouchers. Their incentives vary greatly. The mixed evidence indicates that choice does not necessarily lead to change. Higher education provides some lessons: poor and mediocre schools continue despite choice and competition. And vouchers or extra payments may be needed to ensure that the disadvantaged are served.

Comments

The book presents general conclusions, referring to source documents for supporting data.

Work Environment

Hill, Foster, and Gendler

Paul T. Hill, Gail E. Foster, and Tamar Gendler. High Schools with Character. Santa Monica, Calif.: The RAND Corporation, August 1990.

Setting

Urban public and Catholic high schools attended by low-income minority students.

Source of Information

Intensive case studies of three Catholic schools, three special purpose public schools, and two comprehensive (zoned) public schools, with less-intensive studies of five additional public schools (including two in Washington, D.C.). Hill and colleagues examined school demographics, mission, and organizational strength and student perceptions, attitudes, and outcomes (graduation rates, percentage graduating with Regents diploma, percentage taking the Scholastic Achievement Test (SAT), percentage of blacks scoring above the national average for black students on the SAT).

Findings and Conclusions

The Catholic schools and special-purpose public schools have important features in common: a clear, uncomplicated mission, culture, and core curriculum; a focus on student outcomes; strong internal organization; and the capacity to solve their own problems and manage their external relationships. Outcomes for disadvantaged students in these "focus" schools are far better than for the zoned schools, which have diffuse missions and fragmented curricula established by central authorities, emphasize program delivery rather than outcomes, and have relatively little capacity for self-definition and self-governance. Students and staff are dissatisfied with the zoned schools. Most zoned-school students could benefit from attending focused schools, either schools oriented toward the mainstream student or those designed to meet special needs.

Comments

The zoned schools enroll much higher concentrations of educationally disadvantaged students than the focus schools, and teachers consider transience a problem. The "mainstream" focus schools might not operate as successfully if they enrolled the same cross-section of students as the zoned schools. Outcome measures are limited; the SAT is a proxy for students considering applying to selective colleges.

Work Environment

Kelly	Dierdre Kelly. Last Chance High: How Girls and Boys Drop in and Out of Alternative Schools. New Haven, Conn.: Yale University Press, 1993.
Practice	The use of continuing high schools to prevent students from dropping out.
Setting	Continuing high schools in California.
Source of Information	Two case studies and a synthesis of research literature.
Findings and Conclusions	Continuing high schools, sometimes called alternative or second-chance schools, are the most common dropout prevention program in the United States. A safety net for some students, they have not been effective in retaining students until graduation. In California, where 104,000 students attended continuing high schools in 1986-87, only 10 percent have received a diploma or its equivalent. Continuing schools enroll students whose needs and abilities diverge from those of students who engage in regular high school activities. Students who choose to enroll tend to have higher completion rates than those who are coerced into enrolling. A stigma is often attached to continuing schools that have been assigned disciplinary cases, limit reengagement, and push students out.
Comments	The author notes that the continuing schools she studied lacked a well-developed vision, used a remedial curriculum, and did not prepare students for specific occupations. Because of the small number of cases, her findings cannot be generalized, nor do they suggest much about schools that do not share these characteristics.

Work Environment

Laguarda et al.	Katrina G. Laguarda et al. "Raising the Educational Achievement of Secondary School Students: An Idea Book," U.S. Department of Education, Washington, D.C., 1995.
Practice	Describes practices to strengthen and enrich the curriculum, create communities of learners, link school work to students' futures, and create networks of support for students. Also lists resources for school improvement.
Setting	Secondary schools, including magnet schools and charter schools.
Source of Information	Volume 1 reflects conclusions drawn from the research literature on effective secondary schools, curriculum, and instruction. Volume 2 presents profiles of 13 secondary schools, each illustrating one or more of the described practices and citing evidence of the school's success.
Findings and Conclusions	Secondary schools are most successful when all students, including low achievers, engage in work that is academically rigorous, challenging, and makes sense to them. Ideas for increasing engagement include covering fewer topics but studying them in depth; interdisciplinary approaches; internships and other forms of service learning; and integrating academic with occupational preparation. Techniques such as cooperative learning can help lower-achieving students succeed in the more challenging coursework of the regular program. Smaller school size, the creation of smaller units within schools, and permitting students greater freedom in choosing their school can help increase community. Flexible use of time can broaden the range of learning experiences possible. Peer tutoring and peer or adult mentoring provide students with a sense of membership and support. Practices that build links to families and social services are also helpful.
Comments	For ease of use, citations to individual research reports and papers were omitted. References are listed in volume 1.

Work Environment

Lee and Smith	Valerie E. Lee and Julia B. Smith. "Effects of High School Restructuring and Size on Gains in Achievement and Engagement for Early Secondary School Students." University of Wisconsin, Center for Organization and Restructuring of Schools, Madison, Wisconsin, April 1, 1994.
Practice	Traditional organization, moderate reform practices, and "restructuring" or organizational practices that foster continuity in teacher-student contacts, cooperative teaching or learning, and staff involvement in common planning and school problem solving.
Setting	Public and Catholic and other private high schools.
Source of Information	Eighth- and 10th-grade test scores and other school and student data from the National Education Longitudinal Study of 1988. Analysis covers nearly 12,000 students in 801 schools.
Findings and Conclusions	Small size, academic emphasis, and restructuring are associated with greater student engagement and gains in learning. The distribution of engagement and learning gains across students of different social backgrounds is more equitable in restructured than in either moderately reformed or traditionally organized high schools, which are larger and more internally stratified than the other types and enroll higher proportions of low-income and minority students. Schools get best results when they build a strong core of operation by adopting only a few restructuring reforms—along with such conventional reforms as emphasizing academic requirements, parent involvement, and staff stability. Small size makes both types of reform easier to implement.
Comments	The scores used to measure growth in student achievement were not highly reliable, and the survey data comprised relatively rough indicators of student engagement and school practice. The authors cite case study research as evidence that their findings are on target despite these limitations.

Work Environment

Levine and Ornstein	Daniel U. Levine and Allan C. Ornstein. "Research on Classroom and School Effectiveness and Its Implications for Improving Big City Schools." The Urban Review, 21:2 (1989), 81-95.
Setting	Elementary schools enrolling high proportions of disadvantaged children.
Source of Information	Literature on effective schools and teaching.
Findings and Conclusions	Unusually effective elementary schools for disadvantaged students are characterized by (1) an orderly environment, (2) a clear mission, (3) the principal's instructional leadership, (4) a climate of high expectations, (5) high time-on-task, (6) frequent monitoring of student progress, and (7) positive home-school relationships. Effective teaching for such students combines direct instruction (aimed at building basic skills) with techniques designed to elicit participation and facilitate comprehension and higher-order thinking. Efforts to apply the organizational principles of effective schools to improve other schools have met with mixed success. It is useful for schools seeking improvement to (1) focus on a few clearly defined instructional goals, (2) provide technical assistance and time for staff development, (3) be guided by data and by approaches that have succeeded elsewhere, (4) practice "vigorous selection and replacement of teachers," and (5) be flexible in their approach and maintain a judicious mixture of faculty autonomy and central office directiveness.
Comments	This article usefully summarizes the principles of effective schools for a general audience. These principles were derived from research on inner-city elementary schools, and it may not be possible to generalize to other settings (such as secondary schools or schools that serve students from middle-income families).

Work Environment

Mohrman et al.	Susan A. Mohrman et al. School-Based Management: Organizing for High Performance. San Francisco, Calif.: Jossey-Bass, 1994.
Practice	School-based management.
Source of Information	Reviews of program materials and research literature.
Findings and Conclusions	School-based management is a popular reform that ranges from electing school governing boards to enhancing decisionmaking authority for principals or teachers. In some places, it has improved classroom practice and student achievement. Overall, however, evidence of its efficacy is not compelling. Typically, school-based management programs and the concepts behind them are vaguely described and focus on changing governance, not on improving school outcomes. Although the programs decentralize decisionmaking power, most do not provide a school's participants with the knowledge, skills, and other resources to enable them to improve teaching and learning. Creating new governance structures, by itself, is not enough. School-based management must also be linked to improving a school's goals and processes. Both the district's and the school's roles in these processes must be clearly defined, real decisionmaking authority must devolve to the school, and administrators' roles must be changed accordingly. It is useful to employ a variety of mechanisms (not just a governing council) to involve teachers, parents, and others in the school's management and improvement. A school's participants should have access to information about it and its performance and about performance and practice in other schools. School-based management is more likely to help improve instruction if the school's participants are held accountable for outcomes and rewarded for improving school performance.
Comments	Information about existing programs is too sketchy to sustain conclusions about cause and effect. The authors' conclusions reflect a conceptual analysis of school-based management program design, informed by knowledge of school improvement processes and high-performance businesses.

Work Environment

Pauly	Edward Pauly. The Classroom Crucible: What Really Works, What Doesn't, and Why. New York: HarperCollins, 1991.
Setting	Mainstream elementary and secondary schools.
Source of Information	Site visits and interviews with school principals, teachers, students, and parents in schools in California, Connecticut, Massachusetts, New York, Pennsylvania, and Virginia. Review of relevant research.
Findings and Conclusions	Successfully implementing programs depends on 1. devising new classroom membership policies, including improved attendance, team teaching, and increased parent and student choice; 2. introducing new classroom support policies, including principals' responses to unique classroom problems; 3. increasing teachers' salaries to enlarge and improve the pool of potential teachers; 4. stabilizing classroom membership by providing transportation subsidies for students who move during the school year, providing 2-hour high school classes, and maintaining the same classroom membership for 2 school years; 5. creating alternative schools that recruit teachers and students who wish to work in nontraditional settings; 6. increasing outreach activities to encourage dropouts to return to school by, for example, contracting with community agencies to recruit and support them. Successful innovations often cannot be replicated in other settings: people tend to work harder when they think they are part of a new, important activity, but many effects tend to fade away over time. Teachers alter and reformulate the innovations that they are supposed to implement.
Comments	Findings are based primarily on observational data but are supported by external educational research evidence.

Work Environment

Raywid	Mary Ann Raywid. "Alternative Schools: The State of the Art." Educational Leadership, 52:1 (September 1994), 26-31.
Practice	Alternative organizational structures and instructional strategies.
Setting	Secondary schools for students who have not fared well in conventional schools.
Source of Information	Synthesis of case study literature.
Findings and Conclusions	Alternative schools that succeed with students who do not prosper in conventional settings have in common that they (1) generate and sustain community and are caring places that feel like family, (2) make learning engaging, and (3) provide school organization and structure to sustain community and engagement. All three factors must be present: no one factor is effective without the others. Successful alternative schools tend to be small, designed and led by the people who operate them, and reflective of those teachers' strengths and interests. Newly hired teachers choose and are chosen by a school, which operates with few specialized staff. Students and families choose the school as well. Such schools operate relatively autonomously. Curricular thrusts and instructional strategies vary, but each school offers a challenging, inviting learning environment and opportunities for students to succeed.
Comments	This article presents general lessons learned from case studies, drawing particularly from studies of schools in Community District 4 in New York City. It does not present data on student outcomes. The author is a leading authority on schools of choice.

Work Environment

Rosenholtz	Susan J. Rosenholtz. Teachers' Workplace: The Social Organization of Schools. New York: Longman, 1989.
Practice	School goals and work environments.
Setting	Elementary schools in Tennessee.
Source of Information	Survey data from 1,213 teachers in 78 elementary schools in 5 rural and 3 urban or suburban districts in Tennessee; school demographic, attendance, and achievement data; interviews with 74 teachers from 23 schools that were either very high or very low on measures of goal consensus and collaboration.
Findings and Conclusions	Schools differ markedly along the dimensions of (1) goal consensus with respect to teaching and learning; (2) collaboration among teachers; (3) teachers' learning opportunities; (4) their conceptions of teaching; and (5) teacher commitment. These differences reflect organizational practices of teacher socialization, evaluation, and involvement in decisionmaking and the goal-setting, monitoring, and support activities of principals and district officials. They are reflected in teachers' talk about students and teaching, leadership and mutual assistance among teachers, their efforts to increase their professional skills, and their conception of teaching as either a routine technology or one that can vary to meet individual students' needs. Schools characterized by goal consensus, collaboration, and professional growth differ from schools where teachers have no common goal, are isolated from one another, and are discouraged from asking for help from colleagues or the principal. Isolated teachers become "stuck" teaching as they have always taught. They have less motivation to achieve than teachers in settings that offer greater professional fulfillment. Teachers' learning opportunities and commitment are positively associated with student achievement.
Comments	Some of the quantitative findings are based on small sample sizes and should be treated with caution. Quotations from teacher interviews graphically illustrate the differences in work environment and conceptions of teaching across schools.

Work Environment

Teddlie and Stringfield	Charles Teddlie and Sam Stringfield. Schools Make a Difference: Lessons Learned from a 10-Year Study of School Effects. New York: Teachers College Press, 1993.
Setting	Rural, suburban, and urban public elementary schools in Louisiana, with students of various socioeconomic status.
Source of Information	School, administrator, teacher, and student data—including test scores—from a representative sample of 76 schools, followed by case studies of 8 matched pairs of schools (one more effective and one less effective than predicted from students' socioeconomic status) over 10 years. Focus on third grade.
Findings and Conclusions	School and teacher or classroom factors account for about 25 percent of the variance in student achievement. Effective schools for students of both middle and low socioeconomic status exhibit (1) a clear academic mission and focus, (2) an orderly environment, (3) effective use of instructional time, and (4) frequent monitoring of student progress. Teachers hold high expectations for their students and push them to achieve. Supportive induction of inexperienced teachers helps build and sustain effective teaching. Other factors associated with effectiveness differ in different school contexts. For example, principals of effective schools with students of low socioeconomic status initiate change and serve as instructional leaders for their generally less-experienced teaching staff, while principals of effective schools with students of middle socioeconomic status act as managers, giving their generally more experienced teachers responsibility for instructional leadership. Some schools remained effective over the 10 years (in part by adapting appropriately to socioeconomic changes) while others declined. Changes in principals and faculty led to marked improvement in some formerly ineffective schools, but others remained ineffective.
Comments	Extends "effective schools" research by considering a broad range of contexts, attending to classroom practice, and examining how schools improve or decline. The case studies illustrate practices that permit poor as well as good teaching.

Human Resources

Brandt	Richard M. Brandt. Incentive Pay and Career Ladders for Today's Teachers. Albany, N.Y.: State University of New York Press, 1990.
Practice	Incentive pay and career ladder programs.
Source of Information	Literature review and case studies of Arizona, South Carolina, Utah, and Virginia programs in the 1980s.
Findings and Conclusions	Incentive pay and career ladder programs created in many states and school districts in the mid-1980s were largely designed locally and varied greatly: they might feature merit pay, career ladders, or elements of both. Some were mandatory, others voluntary. Relatively few survived for as long as 5 years. Those that did rewarded many teachers for performing expanded instructional duties rather than recognizing a few for superior teaching. The effort required to plan and implement the programs that survived was substantial, as was the cost. Their effects on teacher motivation were mixed. Some programs produced modest gains in student achievement; others had little apparent effect. The benefits from these programs stemmed mainly from their development of more demanding, comprehensive approaches to teacher evaluation. The tasks of identifying criteria for good teaching and applying them through classroom observation and assessments of student progress stimulated teachers' thinking about, and principals' involvement in, instruction. Had they not embarked on incentive pay systems, school districts would not have improved their evaluation systems. The pay element itself was secondary to these improvements as a source of benefits.
Comments	Studies have relied primarily on interviews and attitude surveys for evidence of the effect of incentive programs on teachers and students. Only a few have examined the connection between teacher pay incentives and student outcomes. Many variables affect student performance, and the effects of teacher pay are difficult to isolate.

Human Resources

Conley and Odden	Sharon Conley and Allen Odden. "Linking Teacher Compensation to Teacher Career Development." Educational Evaluation and Policy Analysis, 17:2 (1995), 219-37.
Practice	Pay plans based on teacher performance, skill, and knowledge.
Source of Information	Review of research literature on teacher motivation and compensation and case studies of four career ladder programs.
Findings and Conclusions	Merit pay and career ladder systems raise doubts about whether an appropriate alternative to conventional teacher pay systems can be found. Individual merit or performance-based pay is not a promising alternative. It works best when workers are independent of one another, the technology is straightforward, and results are easy to measure. It seems ill-suited to teaching, which is inherently collegial. Moreover, teachers seek primarily the intrinsic rewards from helping students learn. Money is not the primary motivator. Job-based pay, which reflects differences in the complexity or importance of the work performed, also has drawbacks, particularly when many teachers must compete for scarce top-level positions. Increases in pay can also be linked to gains in skills and knowledge—to stages in career development. This seems potentially advantageous in that it is connected to intrinsic as well as extrinsic rewards, does not pit teachers against one another, and encourages professional growth on the part of all. Evidence from private industry, higher education, and the few districts that have tried it suggest that skill-based pay would be beneficial to teaching. Changes in compensation systems must be made carefully to ensure that the new system is compatible with organizational goals, structure, and norms (such as collegiality).
Comments	Information on student achievement was not available.

Human Resources

Duke	Daniel L. Duke. "Removing Barriers to Professional Growth." Phi Delta Kappan, 74:9 (1993), 702-12.
Practice	Teacher evaluations.
Setting	Public and private elementary and secondary schools throughout the nation.
Source of Information	Review of research literature.
Findings and Conclusions	Traditional teacher evaluations may be of some use for new and unskilled teachers in that they can foster accountability by formally documenting a teacher's deficiencies and mutual agreements to pursue corrective strategies. However, traditional teacher evaluations have failed to promote professional growth and development. For teachers in need of assistance, evaluations may be perceived as negative, adversarial, and threatening, and they can thwart improvement. Administrators typically have to conduct so many routine evaluations that they have little opportunity to invest in cooperative and sustained efforts to help teachers improve classroom performance. Most experienced teachers meet or exceed the standards upon which they are rated. Evaluations of them reinforce their continuation of ordinary practices and fail to make them aware of the need for continual professional growth. Evaluations for accountability should be separate from evaluations for professional growth, and the latter should be emphasized for experienced and competent teachers.
Comments	Conventional teacher evaluations consist of a set of performance standards and a series of categories by which these standards can be rated. Administrators observe teachers several times a year and then annually summarize the information gathered from their observations. Professional growth plans, in contrast, reflect progress toward individual or organizational goals, with this progress evaluated by both administrators and teachers.

Human Resources

Firestone and Pennel	William A. Firestone and James R. Pennel. "Teacher Commitment, Working Conditions, and Differential Incentive Policies." Review of Educational Research, 63:4 (1993), 489-525.
Practice	Differential incentive policies, including merit pay and career ladders.
Setting	Public and private schools.
Source of Information	Review of qualitative and quantitative studies of teachers' commitment, working conditions, and incentives.
Findings and Conclusions	Working conditions, including incentive systems, shape the teachers' commitment to the school, to teaching, and to students. Committed teachers are motivated to change instructional practices and maintain a drive for excellence. Commitment is enhanced by meaningful and varied work, participation in decisionmaking, feedback, collaboration, learning opportunities, an orderly work environment, administrative support, a reasonable workload, a suitable physical environment, appropriate instructional resources, adequate pay, and job security. Differential incentive plans have had mixed effects. Merit pay and other programs that attempt to link pay and individual performance raise concerns about fairness and may reduce collaboration and diminish learning opportunities. Career-ladder and mentoring programs that mix financial and intrinsic rewards and have weaker competitive aspects enhance commitment by increasing collaboration, participation, and learning opportunities.
Comments	Details of individual differential incentive plans vary greatly. This makes it difficult to evaluate the effect of these plans collectively.

Human Resources

Frase	Larry Frase (ed). Teacher Compensation and Motivation. Lancaster, Pa.: Technomic Publishing Company, 1992.
Practice	Teacher incentive pay and career ladder programs.
Setting	Public and private elementary and secondary schools.
Source of Information	Literature on motivation in schools and workplaces; case studies of state and local public school incentive pay and career ladder programs and private school pay systems.
Findings and Conclusions	Some local school districts have developed incentive pay and career ladder programs that, according to superintendents, have increased professionalism and encouraged marginally qualified teachers to depart. Reviews of pilot programs in several states point to similar perceived benefits when they enhanced professional opportunities rather than simply raising pay. Incentive programs, however, are costly. Many have been ill-designed for the context of teaching and soon abandoned. (Programs restricted to awarding extra pay to a few "outstanding" teachers are a case in point.) State programs have been implemented unevenly and have departed little from conventional practice in some places. Conclusions about success have been based largely on attitudinal data from teachers and administrators, not on performance measures. Overall, the effect of incentive pay on teacher productivity and performance is unclear. The element of these programs most popular with legislators—merit pay—is the most difficult to implement and is weakly related to teacher motivation. Other elements, such as better teacher evaluation procedures and expanded opportunities for professional growth, are more likely to have motivating power. These elements can be instituted within conventional pay plans.
Comments	The book covers only plans directed toward rewarding individual teachers. School-based incentive programs are too new for their effects to have been studied.

Human Resources

Fullan and Stiegelbauer	Michael G. Fullan and Suzanne Stiegelbauer. The New Meaning of Educational Change. New York: Teachers College Press, 1991.
Practice	Teacher staff development and teacher evaluation as tools for change.
Source of Information	Review of research on policies and practices connected to educational change.
Findings and Conclusions	Instructional innovations significant enough to affect student learning require complex changes among teachers and in schools. Many innovations fail because they are technically unsound (fads and quick fixes) or poorly implemented or because the schools are overloaded with demands for change. Staff development is an important tool for implementing innovations. However, conventional practice does not go far enough to be effective. Simply equipping teachers with new skills in a workshop setting (the typical approach) does not ensure that they will apply these skills in the classroom. They need follow-up support to help link their new skills to their prior knowledge, try them out, adjust them to their own classroom circumstances, review the results with colleagues, and adjust them again—in short, to help them learn by experience in a supportive environment. Teacher evaluation systems that are pro forma (as is common) are a waste of time. Evaluation systems that are oriented toward teacher accountability are costly and yield few benefits. Both typically reflect minimal competency or "effective teaching behavior" rather than improving teachers' skills. Exemplary systems oriented toward professional development foster growth and change among capable teachers. Under such systems, teachers who receive low ratings for several consecutive years are likely to leave the profession.
Comments	The author evaluates each practice in terms of its potential for successfully implementing needed change. The practices may serve other purposes as well.

Human Resources

Johnson	Susan Moore Johnson. Teachers at Work. New York: Basic Books, 1990.
Setting	Public, Catholic, and independent elementary and secondary schools.
Source of Information	Interview with a purposive sample of 115 top-rated teachers who work in economically and demographically diverse schools.
Findings and Conclusions	Intrinsic and extrinsic rewards promote good teaching. Schools that attract and retain well-educated and highly motivated teachers are focused, foster a sense of belongingness, and offer substantial psychological rewards. However, adequate pay, opportunities for promotion, and external rewards that signify status and respect for the profession are generally equally important in recruitment and retention. In the sample of teachers studied, private-school teachers who could afford the lower salaries that their schools usually paid were more satisfied with their workplaces than were their public school peers. Traditional supervisory practices do little to improve the overall quality of teaching. Most administrators do not have either sufficient pedagogical and subject area skills to help proficient teachers or time for extended and multiple observations. Teachers profit from training others, collaborative activities, and peer reviews involving extended observations, student evaluations, and self-assessment practices. Virtually all teachers from both public and private sectors agreed that supervision for improved performance should be separate from evaluation decisions that determine salary or job status. None expressed confidence that merit pay could be implemented fairly.
Comments	Given the relatively small size of this sample and the diversity that it included, the findings should be considered suggestive.

Human Resources

Lieberman	Ann Lieberman. "Practices That Support Teacher Development." Phi Delta Kappan, 76:8 (1995), 591-95.
Practice	Teacher development.
Setting	Selected successful schools across the nation.
Source of Information	A review of the history of teacher development activities and related research and an examination of practices at successful schools.
Findings and Conclusions	If school improvement plans are to work, new and expanded teacher development models are needed to teach knowledge and strategies. Unlike conventional teacher development approaches that provide short-term instruction outside the school and classroom, newer approaches provide long-term, continuous learning within them. Newer approaches also actively involve the teacher, unlike conventional ones. Some of the new approaches expand the teacher's role (as teacher-leaders, peer coaches, or teacher-researchers). Others establish professional groups within the school to solve problems, make decisions, or learn about particular learning strategies. External networks, partnerships, and coalitions can also effectively provide access to new ideas and support for implementing them.
Comments	The success of a new approach depends on the commitment of principals and teachers to improving instruction through collegial and participatory action and on their ability to evaluate its effect on student learning. How the new approaches affect student achievement has not been documented.

Human Resources

Little	Judith Warren Little. "District Policy Choices and Teachers' Professional Development Opportunities." Educational Evaluation and Policy Analysis, 11:2 (1989), 165-79.
Practice	District programs for teachers' professional development.
Source of Information	Survey of practice in 30 California school districts, sampled according to size. The study collected descriptions of local practice, data on more than 800 discrete staff development activities, and information from teachers and administrators in these and other districts.
Findings and Conclusions	Districts control much of the money that is available for staff development, although teachers have some say about what is offered. The bulk of the funds pay for central-office specialists or external consultants (who typically have little connection to the district) to conduct workshops or other activities. The emphasis of professional development programs tends to reflect current state or district priorities and to vary from year to year. The range of activity is determined largely by the marketplace of presenters and programs—by what is available and packaged to fit the limited time available. Most activities are generic and are not tailored to a specific curricular area or degree of teacher experience. Most are relatively short term and entail little or no follow-up after the teacher has returned to the classroom. District evaluation of staff development is generally confined to soliciting teachers' opinions at the close of each activity. The practices summarized above are not promising. Research has established that without follow-up "coaching" or other peer support, teachers are unlikely to incorporate new ideas (especially generic ones) into their teaching. Staff development unconnected to broader efforts to improve the school, the curriculum, or an individual's career development plan is similarly unlikely to yield much benefit.
Comments	The study is limited by its absence of outcome data. The author's judgment is based on research on effective practices in staff development.

Human Resources

Office of Technology Assessment	Office of Technology Assessment. Teachers and Technology: Making the Connection. Washington, D.C.: 1995
Practice	In-service training: training teachers to use technology to enhance learning.
Setting	Public and private elementary and secondary schools throughout the nation.
Source of Information	Broad-based literature review; site visits to schools at all grade levels; interview with teachers, administrators, and researchers; case studies of exemplary training programs; survey of faculty and recent graduates of colleges of education; review of past and present federal programs; and analysis of trend data from several studies on the use of new technologies.
Findings and Conclusions	By 1995, schools will have 5.8 million computers for use for instruction, about one for every nine students. However, most teachers have not been adequately trained to use computer technology in teaching. Most funds for technology are spent on hardware and software, with districts devoting at best 15 percent of funds to teacher training. Experts recommend doubling this. The current approach to teacher technology training is typically a short in-service course for large numbers of teachers on one topic. This is particularly inappropriate for technology training, which requires hands-on work with software and hardware, curriculum specific applications, and follow-up support. Lack of teacher time, inadequate training options, rigid school scheduling, and attitudinal barriers limit teachers' ability to learn to use technology. They have little compensated staff development time, and multiple demands compete for it. Most training emphasizes the mechanics of operating equipment with scant information about how to integrate technology into classroom instruction, choose software, or organize classes for maximum technological benefit. On-site support to help teachers use technology is rare. Only 6 percent of elementary and 3 percent of high schools have full-time computer coordinators.

Human Resources

Pauly	Edward Pauly. The Classroom Crucible: What Really Works, What Doesn't, and Why. New York: HarperCollins, 1991.
Practice	Traditional school district hiring.
Setting	Mainstream elementary and secondary schools.
Source of Information	Site visits and interviews with principals, teachers, students, and parents in schools in California, Connecticut, Massachusetts, New York, Pennsylvania, and Virginia. Review of relevant research.
Findings and Conclusions	For several reasons, many schools hire and continue to employ teachers who are not effective: • the need to have a teacher for each classroom and an unwillingness to raise taxes to pay the salaries that will attract a better teaching force, • an unwillingness to spend money on a personnel system that can evaluate applicants critically (by targeting the recruitment of good teachers or by observing applicants in student teaching or current classroom situations), • a reliance on centralized hiring, and • an unwillingness to spend the time required to document a teacher's incompetent performance as grounds for dismissal. Management strategies for retraining, reassignment, early retirement, career change subsidies, and termination can reduce the number of unsuccessful teachers but not unless traditional recruiting, hiring, placement, and evaluation strategies are changed. In the schools studied, assigning new teachers to classrooms with large numbers of students who were difficult to teach and assigning more-experienced teachers to less-demanding classrooms obstructed teaching success.
Comments	Findings are based primarily on observational data but are supported by external educational research evidence.

Human Resources

Sparks and Loucks-Horsley	Dennis Sparks and Susan Loucks-Horsley. "Models of Staff Development." In W. Robert Houston, M. Haberman, and J. Sikula (eds.). Handbook of Research on Teacher Education. New York: MacMillan Publishing Company, 1990.
Practice	Staff development for teachers.
Source of Information	Research studies and reviews of research on effective teacher development practices.
Findings and Conclusions	Research since 1980 has demonstrated that staff development can enhance teacher performance and improve student learning. Effective approaches include • Learning activities undertaken or initiated by teachers to meet individually defined needs or goals or to explore issues of common interest. • Systematic observation and assessment of classroom teaching, followed by feedback and discussion—an approach sometimes called peer coaching or clinical supervision, which is especially powerful when used as a follow-up to training in effective instructional practices. • Participation in curriculum development or school improvement processes, in which teachers design a strategy for solving a school problem or attaining a goal. • Training to improve teachers' knowledge, thinking, and classroom skills. A complete training process includes presentation and demonstration of the new skills, trainee practice of the skills under simulated conditions, and follow-up coaching and feedback in the trainee's own classroom. These approaches work best in schools where staff share common goals and high expectations and administrators promote collegiality, place a high priority on continuous improvement, and provide the resources needed to support it.
Comments	The training approach is well supported by data, including student achievement data. The other approaches are supported by theory, teacher perceptions, and case examples, but studies of them have rarely included data on student outcomes.

Curriculum and Instruction

Alexander et al.	Karl Alexander et al. On the Success of Failure. Cambridge, Eng.: Cambridge University Press, 1994.
Practice	Retention in the primary grades.
Setting	Elementary schools in the Baltimore City Public School system.
Source of Information	Longitudinal study that tracks a sample of 775 grade 1 students for 8 years.
Findings and Conclusions	Retention is applied to (1) students who enter school far behind and make little progress in first grade and (2) students whose performance is adequate initially but declines sharply by the end of some later grade. Retention boosts achievement and self-confidence during the repeated year. Retained students subsequently lose ground but not as rapidly as before. Over the long run, the boost from retention appears to have little benefit for students in the first group or those who are put into special education. However, some students in the second group get back on track at modest levels of achievement. Students who are retained are likely to be placed in the "low" group throughout their primary years and in remedial courses in middle school. The ill effects traditionally attributed to retention may instead reflect the deficits that preceded retention plus the cumulative effects of low-track placement. Being overage for a grade appears to contribute to problems adjusting to middle school. In view of retention's short-term benefits and its ability to stem performance decline among those who start out only modestly behind, it must be considered a qualified success and a viable option. (Decisions concerning retention should be made case by case.) The real need, however, is to figure out how to avoid failure in the first place.
Comments	Retention may have different effects in districts where very few students are retained. The study is unusual in that it documents the academic deficits that led to retention and students' educational placement subsequent to retention. It followed students only to middle school and thus does not examine the effects of retention on dropping out.

Curriculum and Instruction

Becker	Henry Jay Becker. "Computer-based Integrated Learning Systems in Elementary and Middle Grades: A Critical Review and Synthesis of Evaluation Reports." Journal of Educational Computing Research, 8:1 (1992), 1-41.
Practice	Integrated learning systems as the central component of the instructional program.
Setting	Elementary and middle schools.
Source of Information	Reanalysis of the results of 30 evaluations of integrated learning systems.
Findings and Conclusions	A growing number of districts have invested in integrated learning systems technology (comprehensive software offering extensive instructional activities and covering a range of subjects and grades) to teach core academic skills. It has had a moderately positive effect on student achievement. The clearest research findings are that computer-based activities, in general, are motivational and increase engagement because students enjoy working with them. Evaluation reports provide insufficient information to compare the effects of integrated learning systems on achievement with those of other computerized technologies or traditional approaches such as reducing class size and increasing teacher development activities. Thus, evidence is not available to help districts make purchasing decisions between competing products. More research is needed to understand how differences in the organization of instruction in classes that use such products affect student outcomes.
Comments	As the author cautions, the evaluations of integrated learning systems that he reviewed contained methodological weaknesses that limit the ability to generalize from the findings.

Curriculum and Instruction

Funkhouser et al.	Janie Funkhouser et al. "An Idea Book on Extending Learning Time for Disadvantaged Students: Deciding on a Strategy." U.S. Department of Education, Washington, D.C., 1995.
Setting	Fourteen programs to extend learning time for disadvantaged students. All programs extended instructional time beyond the time required in the school day, week, or year. All demonstrated anecdotal evidence of success or were reputed to be successful.
Source of Information	Volume 1 presents analyses of strategies used by 14 programs that experts had identified. Volume 2 presents a profile of each program, including evidence of its success.
Findings and Conclusions	Promising extended-time programs link the added time to the regular school academic experience by giving students the opportunity to build on the skills and knowledge that they have acquired in the regular school program. This linkage involves communication and coordination between regular and extended program staff to ensure that the added instruction is relevant to the regular curriculum and academically appropriate for the students. Promising strategies for extended-time programs include setting goals for students and establishing systems for monitoring student progress, planning enrichment activities that involve hands-on experience or that involve themes of interest to the students, and providing an appropriately challenging curriculum. Most extended-time programs are developed by schools or districts. Some are developed by partnerships between schools and outside agencies. Programs may be staffed by paid teachers or rely on volunteers.
Comments	Data on student outcomes were specific to each site. Therefore, it was not possible to compare the relative effectiveness of different extended-time program models.

Curriculum and Instruction

Gutierrez and Slavin	Roberto Gutierrez and Robert E. Slavin. "Achievement Effects of the Nongraded Elementary School: A Best Evidence Synthesis." Review of Educational Research, 62:4 (1992), 333-76.
Practice	Nongraded programs.
Setting	Mainstream kindergarten to grade 3 and kindergarten to grade 4 programs.
Source of Information	A synthesis of research findings that compares the achievement, as measured by standardized academic tests, of students in two types of nongraded groupings with that of students in traditional classroom groupings.
Findings and Conclusions	Students in comprehensive nongraded programs (those that use nongraded groups for more than one subject) make greater academic gains than students in traditional classroom groupings. Research on less-comprehensive nongraded programs (those that incorporate individual instruction such as one-to-one tutoring, programmed learning, and learning activities) demonstrates similar gains for students in nongraded and graded organizations, indicating that as nongraded programs become more complicated, they lose their advantage.
Comments	The nongraded programs employed a continuous process curriculum that organized skills hierarchically and spanned the grades they included. It might not be possible to generalize the findings to nongraded programs that do not have continuous process curricula.

Curriculum and Instruction

Knapp et al.	Michael S. Knapp et al. Academic Challenge for the Children of Poverty. Washington, D.C.: U.S. Department of Education, 1992.
Setting	Elementary schools in which the student population overall varied from moderate to high levels of poverty.
Source of Information	Qualitative and quantitative data from 140 classrooms in 15 districts: student backgrounds, scores from standardized tests and other assessments, classroom observations, teacher interviews and survey results, and examination of instructional material.
Findings and Conclusions	Compared to traditional practices, alternative instruction that emphasizes meaning and understanding is more effective in teaching advanced skills and engaging students in learning and at least as effective in teaching basic skills. Alternative instruction methods are at least as effective for low-performing students as for high-performers. In mathematics, students exposed to alternative instruction perform substantially better on measures of computation ability than students taught only arithmetic skills. In reading and writing, alternative instruction produces positive effects in all skill areas but one. Supplemental programs, including Chapter 1 pullout, English as a second language, and compensatory education services, have mixed effects on achievement. Results indicate that they should give less emphasis to basic skills and more to more-advanced skills.
Comments	The findings are limited to the acquisition and retention of learning over a 12-month period in only three states.

Curriculum and Instruction

Legters, McDill, and McPartland	Nettie Legters, Edward McDill, and James McPartland. "Rising to the Challenge: Emerging Strategies for Educating Students at Risk." In Alesia Montgomery and Robert Rossi (eds.). Educational Reforms and Students at Risk: A Review of the Current State of the Art. Washington, D.C.: U.S. Government Printing Office, 1994.
Practice	Retention and grouping of low achievers.
Setting	Elementary and secondary schools enrolling students at risk.
Source of Information	Review of research on traditional approaches to compensatory education.
Findings and Conclusions	Schools have traditionally responded to low achievers by grouping them together for instruction and by retaining them in grade. They can benefit thus for subjects such as reading in the elementary grades, but the whole-day grouping and high school tracking that are currently practiced appear to do them more harm than good. Tracking can be limited in a number of ways, such as by grouping students only for specific courses. Research has not determined whether such approaches produce a more positive learning climate for students at risk. However, research has identified methods for making heterogeneous classrooms work well. Retention as generally practiced also has many negative consequences, including dropping out. Retained students who receive extra help make progress but not as much as similar students who receive help and are promoted. Retention appears to be useful in the very early grades and at key transition points (such as high school entry) but only if it is accompanied by high-quality special programs. Responses to low achievement include special education and the Chapter 1 program. Special education for children who have mild academic handicaps offers them little benefit beyond what the regular classroom can provide. The Chapter 1 program has produced modest gains, but they tend to fade.
Comments	The authors do not discuss social promotion or the effects of tracking and grouping on students other than low-achievers.

Curriculum and Instruction

Meisels	Samuel J. Meisels. "Doing Harm by Doing Good: Iatrogenic Effects of Early Childhood Enrollment and Promotional Policies." Early Childhood Research Quarterly, 7 (1992), 155-74.
Practice	Four entrance and promotion practices: raising the age to enter school, retaining children in grade, adding extra-year and transition programs, and parents' holding children out from kindergarten.
Setting	Early childhood and elementary schools.
Source of Information	Synthesis of research literature; analysis of data from the National Education Longitudinal Study of 1988.
Findings and Conclusions	Today's students are often older when they enter and progress through school than their counterparts were a decade ago. In many districts, 10 to 15 percent attend 2-year kindergarten programs. About 19 percent of all students are retained at least once in elementary school. Forty-four percent of African American boys are retained at least once. In two localities, as many as 18 to 20 percent of boys and 9 to 13 percent of girls were held out of kindergarten by their parents. Economically advantaged parents are more likely to hold children out than are disadvantaged parents. These practices have been harmful. Raising the entrance age does not improve later school outcomes and is costly. Students who are over age for their grade are more likely to drop out. Retention in one grade appears to increase this risk by 40 percent; in two grades, by 90 percent. The negative effects of 2-year kindergarten programs are similar to those of retention. Holding students out has raised the age span in kindergarten from 12 to 24 months, increasing the pressure to escalate the curriculum to meet the needs of older, more advantaged, and maturationally different students within a classroom.
Comments	This study looks at the effects of retention on students who are over age for their grade placement. Effects on other students are not considered.

Curriculum and Instruction

Montgomery and Rossi	Alesia Montgomery and Robert Rossi (eds.). Educational Reforms and Students at Risk: A Review of the Current State of the Art. Washington, D.C.: U.S. Government Printing Office, 1994.
Practice	Instructional and organizational strategies for educating students at risk of making inadequate educational progress.
Setting	Elementary and secondary schools enrolling at-risk students.
Source of Information	Review of research on student background and school environment factors that place children at risk and strategies for educating such children.
Findings and Conclusions	The climate and typical instructional practices in schools attended by at-risk students offer them few incentives or pressures to engage in school activities and to invest the effort needed for academic success. Promising instructional practices include (1) early prevention programs, (2) education that is adapted to differences in cultural background and learning styles, (3) curricula that focus on real-world learning and integrate academic with vocational skills, (4) instruction that incorporates adult volunteers as mentors or advocates, (5) cooperative learning and other strategies that incorporate peer support, (6) adult or peer tutoring, and (7) rewards for progress as well as for high levels of attainment. Alternative assessments and technology have promise but are difficult to implement broadly enough to provide consistent exposure to at-risk students as they move from school to school. Promising school organizational features include (1) smaller, special-focus programs that offer close, sustained, positive contacts between teachers and students; (2) decreased departmentalization and tracking, with modifications in classroom procedure to help teachers deal with the greater range of students, (3) closer connections with work or college, and (4) greater involvement with parents and community organizations.
Comments	The authors call these practices "promising" because there is at least short-term or case study evidence of their success. Data limitation and cautions are noted for each practice.

Curriculum and Instruction

Natriello, McDill, and Pallas	Gary Natriello, Edward L. McDill, and Aaron L. Pallas. Schooling Disadvantaged Children: Racing Against Catastrophe. New York: Teachers College Press, 1990.
Practice	Elementary school compensatory education programs of several types. Secondary school programs aimed at improving academic success, motivating students to attend and exert effort, and providing supportive conditions outside school.
Setting	Schools enrolling educationally disadvantaged students.
Source of Information	Review of research on educational practices and evaluation studies of specific approaches and programs.
Findings and Conclusions	Educationally disadvantaged students benefit from attending kindergarten and, particularly, whole-day programs. Effective approaches in the elementary grades offer academically focused, teacher-directed activities that teach students a hierarchy of skills, evaluate their progress frequently, and adjust instruction to their individual needs. Examples include the DISTAR program for teaching mathematics, reading, and language; cooperative learning approaches; structured peer-tutoring programs; and some computer-assisted instruction programs. Many of the more powerful approaches are aimed at all students, not just the lowest achievers, and hence have fallen outside the scope of traditional Chapter 1 programs. Effective high school programs provide disadvantaged students with (1) opportunities for academic success through remedial assistance, rewards for growth, and classroom exercises that draw on a variety of abilities; (2) positive social relationships with staff and peers and a sense of membership in and ownership of the school; (3) a sense of the relevance of school to their future lives; and (4) strategies to mitigate the unfavorable effects of external conditions on their participation and performance in school. The first of these is critically important, given that lack of academic success is one of the strongest predictors of dropping out.
Comments	Reviews the strengths and limitations of Chapter 1, Upward Bound, and Job Corps and many other specific approaches.

Curriculum and Instruction

Oakes	Jeannie Oakes. Keeping Track: How Schools Structure Inequality. New Haven, Conn.: Yale University Press, 1985.
Practice	Low- or remedial-track placements.
Setting	Secondary schools throughout the nation.
Source of Information	Case studies of 25 geographically and demographically diverse junior high and high schools and a synthesis of research literature.
Findings and Conclusions	No group of students has been found to benefit consistently from being in a homogeneous group. The prevalence of tracking is based on the persistence of four assumptions. Three of these are false—that bright students are held back in mixed groups, that students in low and average groups do not develop better self-concepts and attitudes toward school than those in heterogeneous groups, and that the placement procedures used to separate students into groups fairly and accurately reflect their past achievement and native ability. The fourth assumption may be true—that it is easier for teachers to accommodate individual differences and to teach and manage students in homogeneous groups (particularly if they are bright)—but this benefit is not worth the negative educational and social effects of tracking. Students in different tracks have fundamentally different educational experiences. Teachers of high-track classes demand critical thinking, problem solving, and the evaluation and synthesis of knowledge. Teachers of average classes emphasize a simplified version of the skills and knowledge demanded in a high-track class. Teachers of low-track classes require only simple memorization and comprehension.
Comments	The 25 case study schools were not a nationally representative sample.

Curriculum and Instruction

Oakes and Guiton	Jeannie Oakes and Gretchen Guiton. "Matchmaking: The Dynamics of High School Tracking Decisions." American Educational Research Journal, 32:1 (1995), 3-33.
Practice	Low or remedial track placements.
Setting	Secondary schools.
Source of Information	Qualitative and quantitative case studies of three high schools, including analyses of course offerings, enrollment practices, and background and transcript data.
Findings and Conclusions	High school tracking decisions result from the interaction of three factors: (1) differentiated, hierarchical curriculum structure; (2) school structures committed to both common schooling and accommodating differences among students; and (3) political decisions within those structures that influence the distribution of advantage. Teachers and administrators viewed students' abilities and motivation as fixed. High-performing students were given access to large numbers of high-quality courses and to a culture of high expectations. In contrast, low-performing students were placed in courses that provided few opportunities to learn and diminished their expectations. Therefore, the schools offered programs that accommodated rather than altered abilities and motivation. High-achieving students received a disproportionate share of school resources. More-qualified teachers were assigned college-track classes, and counselors gave more time and consideration to these students. College preparatory courses were less likely than others to be reduced because of budgetary constraints. The college preparatory curriculum was very stable because it was well defined by state college admission requirements and logically sequenced. Other programs were less coherent and subject to cutbacks.
Comments	Basing the report in case studies of three high schools allowed an in-depth analysis of a wide variety of source data. However, it limited the ability to generalize from the findings.

Curriculum and Instruction

Office of Technology Assessment	Office of Technology Assessment. Linking for Learning: A New Course for Education. Washington, D.C.: 1989.
Practice	Distance-learning technologies to improve the quality of student education and teacher training.
Setting	Selected elementary, secondary, and postsecondary schools.
Source of Information	A comprehensive overview of state and district policies and practices, a review of the literature, and site visits to districts implementing successful, leading-edge practices.
Findings and Conclusions	New distance-learning technologies provide advanced and specialized courses to students and training to teachers, allow interaction between distant learner communities, and bring experts and information into the classroom. Telecommunications technologies, including fiber optics and computer linkage systems, enable geographically dispersed learners and teachers to ask questions, discuss ideas, and receive quick feedback. For adult learners and advanced high school students, distance learning appears to be as instructional as classroom learning. Its relative effectiveness for all students is not known. States and districts are embracing distance learning as cost-effective in meeting the diverse needs of students who are academically talented, culturally isolated, disabled, home and hospital bound, and in need of specialized motivational, enrichment, or remedial activities.
Comments	This study's eclectic strategies provided broad coverage of a variety of distance-learning issues and settings. More research is needed to compare the effectiveness of different technologies on student outcomes.

Curriculum and Instruction

Slavin and Madden	Robert E. Slavin and Nancy A. Madden. "What Works for Students at Risk: A Research Synthesis." Educational Leadership, 46:5 (1989), 4-13.
Practice	Instructional practices to accelerate learning. In continuous-progress programs, students proceed at their own pace through a series of defined instructional objectives in small groups with similar skills. Cooperative learning programs, in which students work together in small groups to master material presented by the teacher and receive group rewards, have been effective in accelerating achievement in basic skills.
Setting	Preschool and elementary schools enrolling at-risk students.
Source of Information	A synthesis of research findings that compares student reading and mathematics achievement in traditional classes to achievement in classes with instructional practices designed to prevent failure by providing extra resources, such as more time on learning tasks.
Findings and Conclusions	Continuous progress and cooperative learning in grade 1 prevention programs—both of which provide intensive resources such as tutors and small-group instruction—increase reading achievement more successfully than conventional programs, including in-class and pullout remedial models. Prekindergarten programs have strong positive effects on the language and learning ability of disadvantaged children immediately after the preschool experience. These tend to diminish in each subsequent year. Other long-term effects (such as graduation rates and delinquency) appear to be positive but data are limited.
Comments	The study's findings on the effects of preschool do not control for the quality of subsequent educational experiences.

Curriculum and Instruction

Stringfield et al.	Sam Stringfield et al. Urban and Suburban/Rural Special Strategies for Educating Disadvantaged Children. Washington, D.C.: U.S. Department of Education, 1994.
Setting	Twenty-five urban, suburban, and rural school districts. All were eligible for or participating in the federal Chapter 1 program, and all had implemented special strategies that held promise for educating disadvantaged students.
Source of Information	Observations of classroom behavior; surveys of principals, teachers, parents, and students; interviews with school staff; and analysis of standardized test scores.
Findings and Conclusions	The special strategies fall into three categories: philosophical, schoolwide, and adjunct. Prerequisites for success in all include a faculty desire for change, well-managed settings, funds for additional resources, principals with effective leadership skills, effective staff, and parental involvement. Successful philosophical strategies are based on the ideas of the Coalition of Essential Schools, the Paideia Program, and Comer's School Development Program. They present the greatest challenge to implement and replicate because they involve changing curriculum, school decisionmaking, and instructional methods. Successful schoolwide strategies, funded as a Chapter 1 option, depend more on the principal's leadership skills than the others do. They typically use Chapter 1 funds to reduce class size, eliminate pullout services, extend school time, improve staff development, purchase materials, and implement adjunct programs. Adjunct strategies such as Success For All, Reading Recovery, extended time, and peer tutoring programs are the least intrusive and the easiest to implement and replicate because they do not change traditional structures or curriculums.
Comments	The authors discuss findings only in terms of a special strategy. They do not consider the effects of school or neighborhood characteristics that are not associated with the three strategies.

Curriculum and Instruction

Walberg	Herbert J. Walberg. "Enhancing School Productivity: The Research Basis." In Pedros Reyes (ed.). Teachers and Their Workplaces. Newbury Park, Calif.: Sage Publications, 1990.
Practice	Numerous instructional methods (such as reinforcement, accelerated learning, programmed instruction, and reduced class size) and supportive practices (such as graded homework, class morale, and television viewing).
Setting	U.S. public and private elementary and secondary schools.
Source of Information	Meta-analyses of several thousand investigations of factors related to learning, reviews of productive factors in learning.
Findings and Conclusions	Of the instructional practices studied, reward or reinforcement for correct performance had the largest overall average effect on learning. Accelerated learning programs and training in reading ranked second and third. Other methods, including cooperative-team learning, personalized instruction, and tutoring also had strong effects. Smaller class size and programmed instruction had, on the average, very little effect. Of the supportive practices studied, graded homework, high class morale, and family involvement in learning had strong positive effects on learning. Twelve hours or more of leisure-time television viewing a week had a negative effect. The author concluded that improving the amount and quality of instruction, and enlisting the involvement of families, can vastly improve academic learning.
Comments	The methodology combines the outcomes of a vast number of studies about a particular practice into a common base of information. The author could not report many details of the original studies, including those relating to research design, methods, and conditions, because of the large number of studies analyzed. The author encourages individuals who want a more complete and critical understanding of specific practices to read the original research.

Curriculum and Instruction

Wheelock	Anne Wheelock. Crossing the Tracks: How Untracking Can Save American Schools. New York: The New Press, 1992.
Practice	Multilevel instructional groupings.
Setting	Mainstream urban and suburban elementary and secondary schools.
Source of Information	Review of selected research and classroom observations and interviews at sites with multilevel instructional groupings.
Findings and Conclusions	Multilevel instructional groupings require abandoning tracks that sort students by perceived ability. Multilevel instruction expands their exposure to knowledge and enables them to prepare for highly skilled occupations. Students' learning appropriate grade-level skills in groups of mixed ability is contingent on compatible instruction practices: a meaningful, multifaceted curriculum; team teaching opportunities; multiple and flexible opportunities to offer students extra help; and greater professional development in new instruction techniques.
Comments	The schools that had moved from ability tracks to heterogeneous groupings had changed core curriculum, instruction, and assessment practices, changes that were supported by explicit state and district policies allowing them the autonomy to change, protection from resistance, and financing to purchase resources.

Workplaces: Annotated Bibliography

Work Environment

Bower and Christensen	Joseph L. Bower and Clayton M. Christensen. "Disruptive Technologies: Catching the Wave." Harvard Business Review, 73:1 (January-February 1995), 43-53.
Practice	Failure of successful companies to plan for customers of the future. The downside of staying close to the customer.
Source of Information	Selected case studies.
Findings and Conclusions	Most established companies are consistently at the head of their industries in developing and commercializing new technologies. Keeping focused on main customers can blind companies to important new technologies in emerging markets. The technological changes that typically damage a company are not usually radically new or different but typically have a package of performance attributes not initially valued by customers. The performance attributes that existing customers in established markets do value improve so rapidly that the new technology can later invade them. While disruptive technologies may perform worse along one or two dimensions, they generally make possible the emergence of new markets. Rapid innovations can then improve performance and even satisfy the needs of customers in the established markets. Sony's early transistor radios are an example of a new technology that sacrificed sound fidelity by offering new attributes—small size, light weight, and portability. Because managers are evaluated on their ability to place the right bets, it is not surprising that well-managed companies back projects in which the market seems ensured. Established companies need to build a disruptive-technology business in an independent section of the organization. Risk is reduced and careers are safeguarded, but the corporation consists of business units with finite life spans: technological and market bases of any business will eventually disappear.
Comments	Disruptive technologies are an important part of the business cycle and the forerunner of leading-edge technology.

Work Environment

Boyett and Conn	Joseph H. Boyett and Henry P. Conn. Workplace 2000: The Revolution Reshaping American Business. New York: Plume Books, 1992.
Practice	General management changes.
Source of Information	The authors, who are management consultants with a large international firm, researched material from a variety of sources: the popular press, academic research, case studies of the best practices in U.S. industry, and the advice and assistance of various individuals at national productivity and quality associations.
Findings and Conclusions	Recent changes in management and compensation practices were not planned and American management did not set out to create new workplace conditions. The flattening of organizations, the greater sharing of information with employees, the motivation and leadership practices, the pay systems and team systems, all were a response to competitive need. American businesses had to adapt to survive. Workplace practices and changes were not implemented in a systematic or coordinated manner, but many experiments were successful. Case studies of companies document their problems and progress. Key changes the companies made provide guidance for others. The workplace of the future will be flatter, leaner, and more aggressive. Continued advancement in technology will require fewer employees in organizations that will offer fewer opportunities for advancement. Employment security may be a concept of the past, and although large companies will offer a limited guarantee of long-term employment, it will not necessarily be in the same job or workplace. This instability and enormous competitive demands on businesses will put extraordinary pressure on employees for maximum performance.
Comments	The authors' hypotheses are supported by selected case studies of companies. Predictions about the future workplace practices of successful American companies are based on a wide variety of sources.

Work Environment

Collins and Porras	James C. Collins and Jerry I. Porras. Built to Last. New York: HarperCollins, 1994.
Practice	"Visionary" companies that do not have flawless records but are resilient and have "woven themselves into the fabric of society."
Source of Information	A comparison of 18 companies, from their beginnings to the present, that since 1926 have outperformed the general stock market by a factor of 15 to a matched set of companies that had similar opportunities but did not attain the same stature. The authors ask, "What makes the exceptional companies different from other companies?"
Findings and Conclusions	Much of what are today called "new" or "innovative" management methods—employee ownership, empowerment, continuous improvement, total quality management, common vision, shared values—are versions of practices that date to the 1800s. Contrary to popular belief, visionary companies do not require a great idea or charismatic leaders. In the combined 1,700-year life span of the visionary companies, the authors found only four incidents of going outside for a chief executive officer, and those in only two companies. Visionary companies have unchanging core ideologies. Their underlying dynamic is "Preserve the core and stimulate progress." They do not need to bring top management in from the outside for change and fresh ideas. No one aspect makes them work: it is the dynamic of all the small pieces together.
Comments	The historical approach, while suggestive, clearly cannot be generalized to other companies.

Work Environment

Gaskill, Van Auken, and Manning	LuAnn Ricketts Gaskill, Howard E. Van Auken, and Ronald A. Manning. "A Factor Analytic Study of the Perceived Causes of Small Business Failure." Journal of Small Business Management, 31:4 (October 1993), 18-31.
Practice	Business failure.
Source of Information	Retail industry in Iowa. The study examined perceived causes of small-business failure between 1987 and 1991 in apparel and accessory retailing, consolidating many previous research findings and identifying common themes. The Iowa Department of Revenue and all chamber of commerce directors in Iowa were asked to identify failed business owners. A telephone survey confirmed the information, and a questionnaire was mailed to each of the businesses that were identified as having discontinued because of financial reasons. The survey yielded a 70-percent response rate.
Findings and Conclusions	Four major factors explain the principal reasons for small business failure: inadequate managerial and planning functions, poor relations with vendors and difficulties receiving merchandise, inability to compete in the competitive environment, and premature business growth or overexpansion.
Comments	The authors recognize that the research should be duplicated with other geographic areas of the country and other business sectors if results are to be generalized.

Work Environment

Hogarty	Donna Brown Hogarty. "Beating the Odds: Avoid These Mistakes at All Costs!" Management Review, 82:2 (February 1993), 16-21.
Practice	Common pitfalls that threaten new businesses.
Source of Information	Management Review's informal survey of venture capitalists, business owners, consultants and other experts elicited their nominations for common small-business set-up errors. Selected case studies.
Findings and Conclusions	Countless product launches and new divisions fail each year in corporate businesses for the same reasons that cause the demise of small business. To avoid becoming another business failure, entrepreneurs need to learn from others. The 10 most common new-business mistakes are • failing to do initial market research, • failing to find a market niche, • not developing a business plan, • developing an inadequate bookkeeping system, • running out of money, • failing to keep investors informed, • not setting quality standards, • being quick to hire and slow to fire, • failing to get business early, and • not asking for help.
Comments	Results are based on nominations of various groups. The number of respondents and sampling strategy were not provided, so that validity, reliability, and the ability to generalize from the findings cannot be ascertained.

Work Environment

Jacob	Rahul Jacob. "Corporate Reputations." Fortune, March 6, 1995, pp. 54-94.
Practice	The attributes of a company's management, products, and services that respondents to Fortune's 13th annual Corporate Reputations (Most Admired) Survey deem most important.
Source of Information	More than 10,000 senior executives, outside directors, and financial analysts rating the 10 largest companies in their own industry, taken from companies in the 1994 Fortune 500 Industrial and Fortune 500 Service directories. They measured the contenders by eight attributes: quality of management, quality of product or services, financial soundness, value as a long-term investment, use of corporate assets, innovativeness, community or environmental responsibility, and ability to attract, develop, and keep talented people. Their scores were averaged to reach the total.
Findings and Conclusions	The bond between the individual and the organization becomes stronger in high-performing companies. Successful companies have mastered the art of maintaining continuity while fostering perpetual renewal. A company's culture is the characteristic that sets apart the top-ranking "most admired." Like character in a person, a company's culture guides and defines, allowing it to change and grow while remaining true to its core self. Such culture can be passed down successfully through generations of management.
Comments	The sampling strategy and response rate were not provided. Employees were not sampled.

Work Environment

Kotter and Heskett	John P. Kotter and James L. Heskett. Corporate Culture and Performance. New York: The Free Press, 1992.
Practice	Low-performance corporate culture.
Source of Information	A small subset of 207 firms that focused on the largest 9 or 10 firms in 22 different U.S. industries. The findings are based on the histories of 20 firms in diverse industries and geographical locations whose circumstances have led to the development of cultures that undermine their economic performance.
Findings and Conclusions	A consistent pattern of events helps shape an important part of the cultures of low-performance firms, a pattern that differs in at least one or two critical respects from that found in the histories of high-performing firms. The low-performance firms usually began with some combination of visionary leadership and luck. Each firm implemented good business strategy from a strong position in some market or markets and had the means of sustaining that position. However, sustained growth and increasing success created internal challenges. In response, executives hired, developed, and promoted skilled managers who were not necessarily leaders. They might have understood systems and budgets but not vision, strategies, and culture. Eventually, any collective sense of why the firm had been successful in the first place was lost. Unhealthy cultures have three general components. First, managers tend to be arrogant. At one company, no one was ever encouraged to look outside the firm for new ideas; managers acted as if they already had all the answers. Second, managers tend not to value highly customers and stockholders and employees. They act insularly, sometimes politically. Third, leadership and other mechanisms of change are treated with hostility. These firms already had very strong managerial orientations, a perspective that values stability, and order. Executives at some companies who demonstrated "too much" leadership were often not promoted.
Comments	The sample was based on corporations that had been successful at one time. The economic performance was compared to other corporations in the sample. Retrospective analysis makes it difficult to generalize from the results.

Work Environment

Labich	Kenneth Labich. "Why Companies Fail." Fortune, November 14, 1994, pp. 52-68.
Practice	Main reasons why companies fail.
Source of Information	Expert opinion.
Findings and Conclusions	Some 97,000 U.S. businesses failed in 1992. Others lost ground to competitors or key pieces of businesses disappeared. Senior managers must take the responsibility. To avert failure, they must avoid • identity crisis. Without a mental model of the business, decisionmaking becomes capricious and the company drifts. • failure of vision. In recent years, one of the most common disasters stemming from management shortsightedness is getting stuck with yesterday's technology. Trouble starts when people are afraid to talk to the boss and ideas do not get to the top. • the big squeeze. Many companies have fallen into debt by paying too much for an acquisition or overreacting to the predations of corporate raiders. • the glue sticks and sticks. Companies fail when they cannot abandon strategies that no longer work. • anybody out there? Many companies fail because they have lost touch with their most important customers. • enemies within. Top managers, whatever their public declarations, who take a narrow view of their employees can be subject to strikes or hostilities. Corporate leaders who pump up their own bonuses and perks while telling the troops to tighten their belts provoke discord and unrest in the workplace.
Comments	Six very general topics are presented with selected case studies. The consensus of experts and retrospective analysis lack solid methodological underpinnings.

Work Environment

Levering	Robert Levering. A Great Place to Work: What Makes Some Employers So Good (And Most So Bad). New York: Avon, 1988.
Practice	Essential elements that contribute to a satisfying workplace (and descriptions of patterns of undesirable workplaces).
Source of Information	Interviews with lower-level employees, top officers, and founders of 20 of the best from The 100 Best Companies to Work for in America (Levering's 1984 book co-authored with Milton Moskowitz). Research on management theory, industrial psychology and sociology, economic history, and social and moral philosophy.
Findings and Conclusions	Creating a good work environment and increasing profits are compatible goals. Some personnel fads (cafeteria benefit plans, quality circles, employee stock ownership or 401(k) savings plans) genuinely improve employees' income and benefits, but a piecemeal approach is not the essence of a great workplace. Most important is the quality of the relationship between the company and the employees. Employees from divergent companies use the same terms (trust, pride, freedom, family, being treated fairly, being allowed to make mistakes); they are willing to work hard but emphasize their need for a sense of respect. Theories of management have serious political implications within a company; they are not abstractions. Particular policies and practices cannot define a great workplace, and successful companies are not necessarily good workplaces. On the whole, the better employers enjoy more financial success than their competitors.
Comments	Findings from selected case studies cannot readily be generalized.

Work Environment

Levering and Moskowitz	Robert Levering and Milton Moskowitz. The 100 Best Companies to Work for in America. New York: Doubleday, 1993.
Practice	Descriptions of exceptional workplaces.
Source of Information	Material from the authors' Everybody's Business: A Field Guide to the 400 Leading Companies in America and nominees from magazines, newspapers, and others' recommendations. Some companies nominated themselves, and some individuals responded to inquiries for companies with reputations as good workplaces. The authors asked the firms for written material that would show why they should be considered and, at the 147 top candidates, interviewed nonsupervisory employees, a similar number of first-line supervisors and middle managers, human resource executives, and the chief executive officer or another top officer. Then the top 100 companies were profiled and rated for pay and benefits, opportunities, job security, pride in work and the company, openness and fairness, and camaraderie and friendliness.
Findings and Conclusions	The top 100 companies are all highly successful. In downsizing their workforces, 18 still adhere to a no-layoff policy, and several keep to it even when confronted with steep erosions in profits. Employees believe that job security is important and can easily detect manipulators—those who use practices common to good workplaces simply to enhance the bottom line. This is especially true in companies that jump on the quality bandwagon and institute employee-involvement programs without altering managerial attitudes or workstyle.
Comments	Four of the companies have won the Malcolm Baldrige National Quality Award. The authors resist generalizing that good workplaces are superior because they help a company succeed. They acknowledge that no company is perfect for everyone, particularly companies that have their own culture, and try to indicate what kinds of people do and do not fit into each company. They focus on the treatment of people during companies' rocky periods. The sampling procedure was not systematic or representative, so it is impossible to generalize. Moreover, how each firm was rated on the dimensions was not clear.

Work Environment

Levine	David I. Levine. Reinventing the Workplace: How Business and Employees Can Both Win. Washington, D.C.: The Brookings Institution, 1995.
Practice	Employee involvement.
Source of Information	Empirical evidence, case studies, and social science theory.
Findings and Conclusions	With varying degrees of success, employee involvement works. However, broad employee involvement in the U.S. workforce remains the exception. Although it can raise productivity, satisfaction, and product quality, it may not always do so. Various forms of representative participation can improve company performance when they are part of a package of participatory policies. Alone, they may improve labor-management relations but may have little effect on productivity. Measuring the relationship between participation and performance is exceedingly difficult. The main obstacle to employee involvement is that many managers prefer to retain control and avoid change. Another major obstacle is the importance managers place on short-term gains; investment in employee involvement is difficult to monitor, and the market initially yields low results. Managers are given little incentive to raise employee involvement to the level that would maximize profits. Further, unions have typically gained power by confronting management. Employee involvement would require new styles of interaction, skills, and risks. U.S. employers train workers less than their foreign competitors do. Companies reason that training workers who quit leaves them with no return on their investment. Workers are unwilling to pay for much training because they are unsure of the value of their training to other employers if they are laid off; in any case, few employees can afford to pay tuition or take the low wages that the company pays during the training period. Young workers, who have the greatest need to acquire training, are particularly likely to have no liquid assets.
Comments	The author acknowledges that much of the book derives from research and articles previously undertaken with co-authors. Numerous research studies are cited.

Work Environment

Levine and Tyson	David I. Levine and Laura D'Andrea Tyson. "Participation, Productivity, and the Firm's Environment." In Alan S. Blinder (ed.). Paying for Productivity: A Look at the Evidence. Washington, D.C.: The Brookings Institution, 1990. Pp. 183-241.
Practice	The relationship between three broad forms of employee participation and a firm's productivity, accounting for the influence of the firm's external environment and industrial relations system. Forms of participation were characterized as consultative, such as quality circles; substantive, such as work teams; and representative, including workers' councils, joint labor-management consultation committees, and representation on company boards.
Source of Information	An extensive literature review, including a detailed analysis of 43 studies relating participation and productivity in the United States, Europe, and Japan. All 43 studies included quantitative measures of productivity.
Findings and Conclusions	For conventional firms, most studies found no significant positive effect from consultative participation on productivity, perhaps because programs such as quality circles do not last long. But substantive participation, especially on shop-floor issues, is usually related to higher productivity, and increases in participation are related to higher productivity gains. Representative participation is related to higher productivity when part of a broader set of participatory policies but when not standing alone. For employee-owned companies, most studies found a positive relationship between participation and productivity, but these companies also tend to have other characteristics that could affect productivity, making it hard to draw definitive conclusions. Successful participation systems have four characteristics: profit sharing or gain sharing, long-term employment relations, increased group cohesiveness, and guaranteed individual rights for employees. Whether firms adopt such measures may be related to product, labor, and capital market conditions.
Comments	The most important findings are based on reviews of empirical studies, but the authors did not provide many details of the grounds on which they selected studies to review. No meta-analysis of the studies was undertaken.

Work Environment

MacDuffie

John Paul MacDuffie. "Human Resource Bundles and Manufacturing Performance: Organizational Logic and Flexible Production Systems in the World Auto Industry." Industrial and Labor Relations Review, 48:2 (1995), 197-221.

Practice

Effects of "bundles" of workplace practices on labor productivity and product quality in the automobile industry. The workplace practices were human resource management (such as the extent to which compensation is based on performance, the extent of status barriers between workers and managers, and the level of training given to employees), work systems (such as formal work teams and employee involvement), and production buffers (such as large parts inventories). An index was constructed for each dimension, another for all three dimensions combined.

Source of Information

As part of the International Assembly Plant Study sponsored by the Massachusetts Institute of Technology, a questionnaire was administered in 1989 to 90 auto assembly plants worldwide, representing 24 producers in 16 nations and accounting for about 60 percent of worldwide capacity. Extensive follow-up procedures filled in missing data and clarified responses where necessary. This analysis is based on 62 responses.

Findings and Conclusions

The relationships between the three indexes and the combined index, and productivity and quality measures were analyzed with a hierarchical regression model, with controls for levels of automation, production scale, complexity of model mix, parts complexity, and age of production design. All three indexes, and the combined index, predicted productivity and quality at acceptable levels of statistical significance, except that the use of buffers was not related to quality. The results support the hypothesis that plants bundling human resource practices into an integrated or flexible production system and business strategy outperform traditional mass production systems in both productivity and quality.

Comments

It is not possible to generalize broadly from this study of one manufacturing industry. It was cross-sectional, so it cannot show causes for productivity and quality from human resource practices. But it gives strong evidence of the correlation between such practices and performance in the automobile industry.

Work Environment

Meeks, Ramos, and Palmeri	Fleming Meeks, Steven Ramos, and Christopher Palmeri. "How to Tell an Eagle from an Icarus." Forbes, November 13, 1989, pp. 213-17.
Practice	Successful small businesses.
Source of Information	Forbes' list of Up and Comers—100 Companies in 1979.
Findings and Conclusions	Many things can happen to a small company in 10 years. Inflation, high interest rates, and new technologies eliminated thousands of small businesses and once-successful companies whose management failed to adapt. Of the initial 100 companies, 20 are worth less than they were 10 years ago. The long-term winners, the top 15 companies, are niche companies. Overall, the odds of success seem to favor strong little niche companies with proven records. Among other factors, the analysis seems to indicate that small businesses that can adapt rapidly and have found a market niche outperform others.
Comments	The initial criteria for selecting the company were not provided. The retrospective analysis severely limits the ability to generalize, and projecting the findings to other companies in other times would be perilous.

Work Environment

Miller	Danny Miller. "The Icarus Paradox: How Exceptional Companies Bring About Their Own Downfall." Business Horizons, 35:1 (January-February 1992), 24-35.
Practice	When successful practices are no longer effective.
Source of Information	Long-term study of the evolution of outstanding firms. Case studies illustrate and provide examples.
Findings and Conclusions	The paradox of Icarus—whose greatest asset led to his demise—applies to many outstanding companies whose successes and accomplishments seduce them into excesses that cause their downfall. Overconfidence, carelessness, and complacency are pitfalls for strategy, leadership, culture, and structure. Many companies simply extend and amplify the networks they credit for their success. The dangers to large successful organizations are likened to great civilizations in Arnold Toynbee's A Study of History that collapsed or stagnated from internal rigidity, complacency, and oppression. Some successful organizations have adopted potentially powerful methods for avoiding these problems: • building thematic, cohesive configurations, • encouraging managers to focus on the direction of the company, • scanning widely and monitoring performance assiduously, and • temporarily uncoupling renewal activities from established operations. One way for a large organization to "have it all" is to establish small, independent units that can experiment and do new things outside the configuration of existing operations.
Comments	Earlier research on outstanding companies yielded four "trajectories of decline." The author studied the long-term evolution of outstanding firms conforming to these established types by tracking them for "many years." His research methods are not provided.

Work Environment

National Center on the Educational Quality of the Workforce	National Center on the Educational Quality of the Workforce, "First Findings." EQW National Employer Survey. The Wharton School, Institute of Research on Higher Education, University of Pennsylvania, Philadelphia, 1995.
Practice	Employers' attitudes, practices, and expectations.
Source of Information	Firms were identified by drawing on the World Bank's multinational survey of firms and their employees. A telephone survey was administered in 1994 to more than 4,000 establishments. Firms in the manufacturing sector and those with more than 100 employees were oversampled. The survey was administered by the Bureau of the Census, and the study was supported under the Educational Research and Development Center and administered by the Office of Educational Research and Improvement, U.S. Department of Education.
Findings and Conclusions	High-performance work systems remain the exception: a quarter of the establishments reported using benchmarking programs, and only 37 percent have adopted a formal total quality management program. Few workers engage in high-performance work practices: 12 percent of nonmanagerial workers participate in self-managed teams, only 17 percent in job rotation. However, 54 percent of nonmanagerial employees participate in meetings on work-related problems. Only 5 percent of the establishments indicated any reduction in the skill requirements of their jobs, while 56 percent reported increasing their skill requirements. Virtually all establishments provide formal or on-the-job training. Over half increased their formal training over the last 3 years. More than 80 percent of their workers are fully proficient in their current jobs. Although years of schooling and applicants' skills certificates are a factor in employers' hiring decisions, they pay little attention to school performance. More important is an applicant's attitude, communication skills, and history of successful work experience.
Comments	The sampling strategy was not provided. The rate of cooperation and the titles of the persons responding to the survey were not provided. Therefore, representativeness remains uncertain.

Work Environment

National Center on the Educational Quality of the Workforce

National Center on the Educational Quality of the Workforce. "The Other Shoe: Education's Contribution to the Productivity of Establishments." A second round of findings from the EQW National Employer Survey. The Wharton School and The Institute for Research on Higher Education, University of Pennsylvania, Philadelphia, 1994.

Practice

Hiring decisions.

Source of Information

A 1994 Bureau of the Census telephone survey of more than 4,000 establishments drawing from the work of the World Bank. The study was supported under the Educational Research and Development Center and administered by the Office of Educational Research and Improvement, U.S. Department of Education.

Findings and Conclusions

Increasing workers' education produces twice the gain in workplace efficiency that increasing the value of tools and machinery does. A 10-percent increase in education yielded an 8.6-percent increase in productivity; a similar increase in capital stock (tools, buildings, and machinery) yielded only a 3.4-percent productivity increase. The effect rises to 11 percent in the nonmanufacturing sector, which has the greatest job growth. Education had the lowest effect on productivity in wholesale and retail trade. Employees in certain sectors were less likely to receive education, and the training they did get was not portable, effectively condemning them to low-paying jobs.

Some employers are divorced from schools and lack confidence in their ability to train students for the workplace. They frequently base hiring criteria on attitude, communication skills, and previous work experience. Employers who base their hiring decisions on academic performance or who have links to schools through internships or training programs show higher productivity and more innovative workplace practices.

Comments

The sampling strategy was not provided. The rate of cooperation and the titles of the persons responding to the survey were not provided. Therefore, representativeness remains uncertain. The study's sponsors plan to repeat the survey in 3 years because of the rapid pace of change in the economy and labor market.

Work Environment

Pullinger	David Pullinger. "The Anorexic Organization." Personnel Management, 24:3 (March 1992), 4.
Practice	Cost-cutting.
Source of Information	Expert opinion.
Findings and Conclusions	An analogy is drawn between the cost-reduction efforts of some companies and the anorexic young adult. Faced with managing a difficulty, the classic response is to cut costs. This may leave an organization leaner, but it may not be fitter. Cost-cutting may actually weaken the organization's ability to generate revenue. The more that cost-cutting affects the company's development activities, the more the company's ability to sustain itself in the long term will be impaired; it may not be strong enough to defer bankruptcy or acquisitions. Before implementing drastic measures, the organization should identify its problems and their causes. The next step is to identify actions appropriate to the issues. Short-term goals need to be set and met. At the same time, the organization must engage employees in building for the future because while it recovers and focuses on internal matters, the world moves on. Markets change: opportunities open and close. Human resource personnel have a significant role to play in the recovery process.
Comments	This article is not based on a systematic analysis of representative data.

Work Environment

Smith and Oliver	Jim Smith and Mark Oliver. "The Baldrige Boondoggle." Machine Design, 64:16 (August 6, 1992), 25-29.
Practice	Quality awards.
Source of Information	Selected case studies.
Findings and Conclusions	High quality is not free and does not ensure success. Wallace Company won the 1990 Malcolm Baldrige National Quality Award. It increased on-time deliveries from 75 percent to 92 percent and increased market share more than 8 percent but spent more than $2 million annually in extra overhead. Customers had said they wanted more timely deliveries, but they were not willing to pay extra for them. Other companies, too, have discovered that high quality costs a great deal of money and that customers prefer slightly less-than-perfect service from firms that charge less. The fiscal performance of other Baldrige winners has been mixed, and companies that have not won have consistently outsold winners they compete with. Some argue that the Baldrige Award was never meant to reward financial success. Some exemplary companies have decided that pursuing the prize is not cost-effective. The reality is that no company has performed better than average after winning the Baldrige and most have had serious earning declines. The authors conclude that the Baldrige has virtue on its side. Unfortunately, it takes virtue and solid business fundamentals to survive in the modern world. A little less virtue and a lot more pragmatic business sense is what America needs.
Comments	Systematic sampling of Baldrige winners was not done.

Work Environment

U.S. General Accounting Office

U.S. General Accounting Office. Organizational Culture: Techniques Companies Use to Perpetuate or Change Beliefs and Values, GAO/NSIAD-92-105. Washington, D.C.: 1992.

Practice

Developing and maintaining organizational culture, defined as the underlying assumptions, beliefs, values, attitudes, and expectations shared by an organization's members.

Source of Information

Discussions with five academicians who have done research on organizational culture and officials of nine large companies, three of which were attempting to perpetuate, and six to change, their corporate cultures, particularly in regard to inventory management. The report grew out of a series of studies on managing defense inventories.

Findings and Conclusions

Changing an organization's culture is a long-term effort, taking at least 5 to 10 years to complete. Company officials reported that two key techniques for promoting cultural change are commitment of top management in both words and actions and training that promotes and develops skills related to the desired values and beliefs. In addition to these, company officials indicated that successful change requires a combination of other techniques, including distributing a written statement of desired values and beliefs to employees; creating a management style that reinforces these values and beliefs; offering rewards, incentives, and promotions to support behavior that reinforces these beliefs; holding company gatherings to discuss them; developing an organizational structure that is compatible with them; using systems, procedures, and processes to support organizational values; and using stories, legends, myths, and slogans to communicate values and beliefs. Experts noted that the same techniques could be used to perpetuate an existing organizational culture.

Work Environment

Wagner	John A. Wagner III. "Participation's Effects on Performance and Satisfaction: A Reconsideration of Research Evidence." Academy of Management Review, 19:2 (1994), 312-30.
Practice	The effects of various forms of employee participation on employee performance and job satisfaction: employee ownership, participation in work decisions, and consultative, short-term, informal, and representative participation.
Source of Information	A meta-analysis of 11 previous literature reviews on the associations between job performance and satisfaction and one or more forms of subordinates' participation in processing information, making decisions, or solving problems.
Findings and Conclusions	Employee participation is associated with improved job performance and job satisfaction among employees, even though the studies used different review methods (narrative, simple quantitative, meta-analytic) and examined different samples of research studies. But while the association is statistically significant, it is small; thus, if the costs of initiating and maintaining such participation programs are high, companies are not likely to adopt them. No statistically significant differences appeared between the types of participation in terms of either performance or satisfaction.
Comments	The study's statistical method might underestimate the variation in types of participation but, given the small effect sizes, this is not likely to present problems.

Human Resources

Arthur	Jeffry B. Arthur. "Effects of Human Resource Systems on Manufacturing Performance and Turnover." Academy of Management Journal, 37:3 (1994), 670-87.
Practice	Differences between commitment systems and control human-resource systems on the performance of steelmaking minimills. Compared to control human-resource systems, commitment systems involve greater decentralization of management, fewer workers per supervisor, more employee participation in problem solving and decisionmaking, higher-skilled workers, higher levels of general training, more formal grievance procedures, more social activities, higher wages, and a higher percentage of compensation accounted for by benefits and a lower percentage by bonus or incentive payments.
Source of Information	A survey of human resource managers at 30 of the 54 existing U.S. minimills. The data were used to construct 10 variables on different aspects of the mills' human resource systems. Cluster analysis yielded six clusters, but to preserve degrees of freedom, these were collapsed into the commitment and control categories by judgment. (Reliability was tested by six student raters.) Respondents also provided data on two measures of performance (labor efficiency and scrap rate) and on turnover.
Findings and Conclusions	Regression analysis found that commitment human-resource systems are related to higher performance than control systems, signified by fewer hours of labor to produce a ton of steel and a lower ratio of scrap to finished steel. This was interpreted to mean that commitment systems avoid a tradeoff between production quality (scrap rate) and efficiency (labor hours). Commitment systems also have lower turnover than control systems. Finally, the type of human resource system affects the relationship between performance and turnover such that, in commitment systems, higher levels of turnover consistently harm performance, whereas this is not true for control systems.
Comments	This study focused on only one manufacturing industry, so it cannot be broadly generalized. The small sample size limited the analysis, so that broad categories of systems had to be constructed, based on the author's judgment; and while the categorization was supported by other raters, its validity and reliability remain at issue.

Human Resources

Bassi	Laurie J. Bassi. Smart Workers, Smart Work. Washington, D.C.: The Southport Institute for Policy Analysis, 1992.
Practice	Workplace education and reorganization of work.
Source of Information	Case studies of 72 small and medium-size companies (fewer than 500 employees). Mail and telephone survey of a random sample of members of the National Association of Manufacturers and a random sample of firms from lists of a professional mail house.
Findings and Conclusions	A third to a half of nonmanufacturing firms and half to three quarters of manufacturing firms have undergone at least some reorganization of work; only a small fraction have undergone substantial change in the way work is done. The most frequently cited type of work reorganization is giving greater responsibility to workers. Larger firms are more likely to have reorganized work and implemented education programs. Few firms have a workplace education program. Among those that do, most commonly taught are skills for identifying problems and techniques for their solution and interpersonal skills, such team building. Manufacturing firms are much more likely to teach academic skills such as reading, writing, mathematics, and the GED curriculum, and improvements in terms of profits are most pronounced from teaching them. Firms that have instituted programs are not strikingly different from those that have not, but they do have compensation packages that are equal to or better than those of others; they are also more likely to promote from within and have somewhat less turnover. The most frequently reported direct effects of workplace programs are improved communication and employee morale and greater customer satisfaction, self-confidence, and ability to solve problems.
Comments	The sample was drawn from an organizational membership and is not necessarily representative of the industry. The survey yielded a response rate of 18 percent, severely limiting any attempt to generalize from the findings.

Human Resources

Conte and Svejnar	Michael A. Conte and Jan Svejnar. "The Performance Effects of Employee Ownership Plans." In Alan S. Blinder (ed.). Paying for Productivity: A Look at the Evidence. Washington, D.C.: The Brookings Institution, 1990. Pp. 143-81.
Practice	The relationship between employee stock ownership plans (ESOPs) and related ownership forms and corporate performance in the United States and, to a limited degree, Europe.
Source of Information	Six studies of U.S. ESOPs supplemented by a brief review of studies of other forms of employee ownership. Data from the studies were not aggregated or meta-analyzed.
Findings and Conclusions	The evidence on the effects of ownership through ESOPs on corporate performance (productivity and profitability) is contradictory: some studies show a direct effect, but they often lack control variables, which generally reduces the effect to a negligible level. However, the evidence is stronger that employee participation in decisionmaking in employee-owned companies is associated with better performance. What the literature does not address is whether participation has the same effect in nonemployee-owned companies and whether employee ownership itself leads to more participation.
Comments	The authors were aware of variations in the strength of the studies they reviewed and appropriately tempered their conclusions. The overall findings are suggestive but hardly definitive.

Human Resources

Cooke	William N. Cooke. "Employee Participation Programs, Group-Based Incentives, and Company Performance: A Union-Nonunion Comparison." Industrial and Labor Relations Review, 47:4 (July 1994), 594-609.
Practice	Employee participation programs, group-based incentives, and company performance.
Source of Information	Survey of 841 manufacturing firms in five Michigan counties in 1989-90. About 27 percent of the respondents were unionized.
Findings and Conclusions	Employee-participation programs and group-based incentives yield gains in a company's performance when measured as value added net of labor cost per employee. On the average, the unionized companies have higher value added per employee, pay much higher hourly wages, have lower ratios of labor costs to total costs, are less likely to have profit- or gain-sharing plans, are older and larger, and employ a substantially larger proportion of skilled tradesworkers than the nonunion firms. Unionized companies with work teams but no group-based pay achieve the highest level of performance—estimated at 35-percent higher than comparable, nonunion firms without teams or group-based pay. Unionized firms provide the better place for evaluating the benefits of employee-participation programs; nonunion firms generally provide the better place for estimating group-based pay as a performance incentive.
Comments	Data came only from Michigan, although responses were received from 70 percent or more of the firms in each county. However, the regression analysis was based on about 34 percent of the responses because data were missing on key variables. Much more research is required, since the data have limitations and since this is the first study to examine the effect on company performance of the interactions between union representation and employee-participation, profit-sharing, and gain-sharing programs.

Human Resources

Csoka	Louis Csoka. "Closing the Human Performance Gap." Report 1065-94-RR. The Conference Board, New York, 1994.
Practice	High-performance practices.
Source of Information	A survey of human resource executives of a representative sample of medium to large manufacturing and service firms requesting information on current business practices in developing and maintaining a high-performance workforce: 166 U.S. and European companies responded. In-depth interviews were conducted with executives of companies selected for their emphasis on innovations in human performance improvement systems.
Findings and Conclusions	Less than 5 percent of the companies spent more than $5,000 on internal classroom and on-the-job training for new employees in the first year. They placed more emphasis on external programs, such as partnering with technical schools and high schools. Although education and training are crucial to gaining a critical edge, meeting the educational needs of the workforce is only part of the answer. A systematic view of performance leads to outstanding learning programs. Human resource programs emphasize accountability for business results by focusing on the business and human resource practices that address performance. The respondents show significant agreement on factors that affect high performance. However, these factors do not correspond to the causes of deficient performance. Survey results reveal that frequently interventions are single, quick-fix programs that do not address underlying causes of performance problems.
Comments	The respondents were self-selected and self-identified as requesting information on current business practices for developing and maintaining a high-performance workforce. The number surveyed and the response rate were not provided for this group.

Human Resources

Cutcher-Gershenfeld	Joel Cutcher-Gershenfeld. "The Impact on Economic Performance of a Transformation in Workplace Relations." Industrial and Labor Relations Review, 44:2 (January 1991), 241-60.
Practice	Conflict and cooperation in labor-management relations.
Source of Information	Longitudinal analysis of changing patterns in labor-management relations across work groups in a large unionized manufacturing facility over a 3-year period. Data were collected from union and employer records and interviews.
Findings and Conclusions	The focus was on two core elements of labor-management relations: the resolution of disputes and the pursuit of common concerns. Work areas with "traditional" labor-management relations, rooted in adversarial assumptions, have higher costs, more scrap, lower productivity, and a lower return to direct labor hours worked than work areas with "transformational" relations, characterized by increasing cooperation and improved dispute resolution.
Comments	This company and the union are uncommon in that they have a long tradition of positive relationships and the company has traditionally placed a high value on human resources. Results of this study clearly cannot be generalized.

Human Resources

Fitz-enz	Jac Fitz-enz. "The Truth About 'Best Practice.'" Human Resource Planning, 16:3 (1993), 19-26.
Practice	Best practices.
Source of Information	Company-operating data from the annual SHRM/Saratoga Institute Human Resource Effectiveness Report. Screenings and multiple interviews with the top 25 percent (defined by objective performance data) of 600 reporting companies. Interviews were designed to verify that the firm had a plan, had succeeded, and could point to objective evidence of that success in terms of productivity, quality, sales, or improved customer service.
Findings and Conclusions	The top 25 percent of companies have nine "best practices" in common. Combining and redefining factors the following year confirmed eight best practices in human resource management: communications, continuous improvement, culture consciousness, customer focus and partnering, interdependence, risk taking, strategy and commitment, and value focus. "Best practice" is not a set of discrete actions but, rather, a cohesive, holistic approach to organizational management that is the antecedent to and transcends the visible activity.
Comments	Case study and business article authors who focus on "best practices" frequently come to misleading conclusions because they isolate a few elements that supposedly account for a firm's success. Because of this narrow view, this literature presents an incomplete and shallow description of activities. The author of this article selected a sample of the top 25 percent of companies based on their performance data. From them, he identified fundamental factors that drive a business enterprise. The article's findings are presented as a general guide rather than a specific action plan, and consequently they are subject to wide interpretation.

Human Resources

Greer and Ireland	Charles R. Greer and Timothy C. Ireland. "Organizational and Financial Correlates of a 'Contrarian' Human Resource Investment Strategy." Academy of Management Journal, 35:5 (1992), 956-84.
Practice	In the "contrarian" human resource investment strategy, a company selectively hires key employees during a major business downturn, helping it avoid personnel shortages, link human resource planning with corporate strategy, provide access to higher-quality applicants than during better times, assist in meeting affirmative action goals, ensure a regular age distribution among employees, provide developmental and career planning opportunities when business demands are relatively low, and contribute to long-term financial performance.
Source of Information	A three-wave survey of 500 firms drawn randomly from the 1987 Standard and Poor's Register of Corporations, Directors, and Executives that met three criteria: (1) noninclusion in an earlier survey, (2) 2,000 or more employees, and (3) listing on the 1986 Center for Research in Security Prices monthly tape file. Financial performance indicators came from the center's data. The first wave produced 106 responses, the follow-up only 45. The third wave checked technical issues on the first two.
Findings and Conclusions	Regression models showed the relationships between the benefits and risks of selective countercyclical hiring along with contextual variables (total company employment, industry, and product demand during downturns) and total hiring, hiring of managers and professionals, and self-report of corporate countercyclical hiring. Countercyclical hiring is positively related to avoiding personnel shortages, development and career planning, and financial performance. Age distribution was mixed: positive for hiring managers but negative for professionals (possibly reflecting their higher pay and more rapid skill obsolescence). Costs are negatively associated with countercyclical hiring, which may become more important to long-term success as key projected labor shortages emerge in the 1990s.
Comments	The sample size was small (not more than 45 in most cases), making it hard to generalize from the results. Since there were no data on the actual performance of the companies, whether countercyclical hiring actually produced the benefits expected could not be tested.

Human Resources

Holzer et al.	Harry Holzer et al. "Are Training Subsidies for Firms Effective? The Michigan Experience." Industrial and Labor Relations Review, 46:4 (July 1993), 625-36.
Practice	State-financed funding for a training grant program for manufacturing firms in Michigan with 500 or fewer employees that were implementing some new type of technology.
Source of Information	Survey of the amounts of formal job training (measured by the numbers of employees participating in training programs and hours spent per employee). Questions were also asked on the quality of output for each year, using a variety of measures that firms use in their own quality control programs.
Findings and Conclusions	Training grants increase training in the year they are received but not beyond. The quality of output, as measured by the scrap rate, is affected positively, and the effect on training and scrap rate is "not completely lost in subsequent years."
Comments	The first to apply for grants were the first to receive them. In 1988-89, 498 firms applied, and 270 were awarded grants. Only 24 percent of the firms that received a grant responded to the survey, so the findings may contain unknown biases.

Human Resources

Kruse	Douglas L. Kruse. Profit Sharing: Does It Make a Difference? Kalamazoo, Mich.: Upjohn Institute for Employment Research, 1993.
Practice	The effects of employee profit-sharing plans on productivity and stability.
Source of Information	A telephone survey of 500 public companies, half with profit sharing for employees other than management and half without. An attempt was made to match profit-sharers with their counterparts in the same industry. Productivity data were matched with publicly available data from public companies on their 1970-91 financial characteristics and performance.
Findings and Conclusions	The adoption of profit sharing is statistically associated with significant productivity increases, with no negative postadoption trend. However, a substantial number of adopters experience no productivity increase. Increases are largest for small companies, cash plans, and plans with high average contributions. Profit sharing does not appear to vary greatly by occupational status or firm size but does appear to be less common among unionized employees. Advantages for workers and unions appear to be the potential for fewer layoffs under adverse conditions and for higher pay from better performance. Gains to employment stability accrue to the entire economy as workers' purchasing power is maintained without unemployment insurance or government assistance. Profit sharing potentially yields greater productivity, less unemployment, and macroeconomic stability, which are central to economic performance, security, and the standard of living.
Comments	Companies with publicly traded stock are listed in Standard and Poor's CompuStat database. There was no information about how the sample was chosen or how the paired control was selected. While the overall findings are suggestive, they are not definitive.

Human Resources

Mitchell, Lewin, and Lawler	Daniel J. B. Mitchell, David Lewin, and Edward E. Lawler III. "Alternative Pay Systems, Firm Performance, and Productivity." In Alan S. Blinder (ed.). Paying for Productivity: A Look at the Evidence. Washington, D.C.: The Brookings Institution, 1990.
Practice	The relationships between alternative pay systems—profit sharing, gain sharing, stock options, ESOPs, and incentive or bonus plans—and on the economic performance and productivity of firms. The effects of incentive plans on wages and profit-sharing plans on compensation levels.
Source of Information	For the main analysis, 495 responses to a survey of 7,000 business units about 1986-87 human resource policies and practices (from the Columbia (University) Business Data Set) matched to 1983-86 financial performance data (from COMPUSTAT). For the relationship between incentive plans and hourly wages, Bureau of Labor Statistics 1979-86 wage surveys; for the relationship between profit sharing and other fringe benefits, National Industrial Conference Board surveys from the early 1950s.
Findings and Conclusions	Regression analyses showed that an index of the five alternative pay variables is associated positively with higher productivity among production workers but not clerical workers. Profit sharing is associated with higher productivity for both types of employees; ESOPs are associated with higher productivity among production workers. Similar results were not found for performance, measured as return on investment or return on assets. When related to changes in the productivity and performance measures, both profit sharing and ESOPs showed positive associations. Firms with such plans are able to respond more quickly to economic downturns than other firms. Incentive plans are associated with higher hourly wages, and profit-sharing plans do not appear to substitute for pension or other fringe benefits.
Comments	The main analysis was based on a survey with only a 6.5-percent response rate, making generalizations impossible. The authors used indexes for many of their variables, raising questions about whether their analytical techniques were appropriate. Some data were quite old, in one case dating to the 1950s.

Human Resources

Snell and Dean	Scott A. Snell and James W. Dean, Jr. "Integrated Manufacturing and Human Resource Management: A Human Capital Perspective." Academy of Management Journal, 35:3 (1992), 467-504.
Practice	Four human resource management practices—selective staffing, comprehensive training, developmental performance appraisal, and equitable rewards—and how they are related to three components of integrated manufacturing—advanced manufacturing technology, just-in-time inventory controls, and total quality.
Source of Information	Surveys of plants of 512 firms in the metalworking industry, drawn from the Harris Pennsylvania Industrial Directory; 160 plant managers responded. In addition, human resource managers and nonmanagerial employees were surveyed, with up to 120 responding. Multiple-item scales were used as measures of the human resources management practices and manufacturing innovations. Controls for organization and industry environment were based on data from the surveys, Standard and Poor's Directory of Corporate Affiliations, and the Department of Commerce's Survey of Manufactures.
Findings and Conclusions	The authors tested the relationships between the three components of integrated manufacturing, including all their possible combinations, and personnel practices. Firms using integrated manufacturing—especially advanced manufacturing technology and total quality—are more likely than traditional firms to exert effort to develop operations and quality workers. Just-in-time inventory controls, however, are sometimes negatively related to personnel practices; they may actually limit employee discretion, reducing the need for innovations in personnel practices. The interaction of all three components shows consistently negative relationships with human-resource practices for production control workers. The authors suggest that this is because when all these processes are in place, production control may become superfluous, requiring less human-resource investment.
Comments	The sample size was small and drawn from only one industry. The study did not address whether firms actually perform better when they use the human-resources management practices studied.

Human Resources

U.S. General Accounting Office

U.S. General Accounting Office. Employee Stock Ownership Plans: Little Evidence of Effects on Corporate Performance, GAO/PEMD-88-1. Washington, D.C.: 1987.

Practice

Employee stock ownership plans.

Source of Information

Within a broader study of ESOPs, GAO compared the performance of a subsample of 111 firms sponsoring ESOPs with that of a comparison sample of firms that did not sponsor ESOPs. In the comparison sample, each firm matched an ESOP firm on measures of industry and size. For each firm in the two samples, GAO obtained corporate tax returns covering 6 years, including the 2 years before an ESOP was established, the year it was formed, and 3 years afterward. Data from these returns were used to construct measures of productivity and profitability. Other data on ESOPs and sponsoring firms came from a survey of 1,100 ESOP firms, with a response rate of 77 percent.

Findings and Conclusions

Using analysis of covariance techniques, GAO found that firms did not have higher rates of productivity growth or profitability after they adopted ESOPs, compared to the matching non-ESOP firms. GAO suggested that the lack of ESOP effects on corporate performance could reflect a number of factors. First, the ownership benefits of ESOPs appeared to be too limited and too delayed to motivate higher performance levels among employees. Because ESOPs are organized under retirement law, participants did not have access to the stock until separation from the sponsoring company. Moreover, few firms passed through stock dividends to employees, and voting rights were limited. Second, although ESOPs were designed to assist firms in financing capital expansion, few firms actually used them for that purpose, so the potential productivity and profitability gains from investments were necessarily limited.

In a separate analysis of the ESOP firms only, GAO found that those that also featured a high level of employee participation in decisionmaking had considerably higher productivity improvements after starting an ESOP. Since this finding was only associational, GAO could not determine whether ESOP firms that gave employees higher levels of participation improved performance or whether better-performing companies called upon their employees to participate more than did other firms.

Human Resources

U.S. General Accounting Office

U.S. General Accounting Office. Workforce Reductions: Downsizing Strategies Used in Selected Organizations, GAO/GGD-95-54. Washington, D.C.: 1995.

Practice

Downsizing an organization's workforce.

Source of Information

Reviews of documents and interviews with corporate and government officials in 25 organizations reputed in literature searches and discussions with experts and consultants to have successfully met downsizing goals. The organizations included 17 companies, 5 U.S. state governments, and 3 foreign national governments. Information was collected on planning for workforce reductions, approaches used to carry them out, and the human resource aspects of the downsizing efforts.

Findings and Conclusions

The private companies reported that their downsizing decisions were related to restructuring decisions designed to make work processes more efficient or eliminate unnecessary work; only seldom were they designed to reduce employment. In contrast, the states reported that downsizing was generally undertaken to cut costs, regardless of work considerations. Of the 25 organizations, 15 reported that it was important to plan how reductions would be carried out in order to retain a viable workforce. Organizations that said they did not plan their downsizing efforts properly acknowledged that they cut needed employees, suffered skills imbalances, and were often forced to rehire or replace separated employees.

Most of the organizations used monetary incentives to encourage "at risk" employees to leave voluntarily if they could not be redeployed. Among these incentives were early retirement without penalties, credit of additional years of service in retirement benefit determinations, and lump-sum severance payments of up to one year's salary. Attrition and hiring freezes were reported to be useful but not always effective in achieving short-term workforce reductions. Involuntary separations were usually a last resort; where possible, they were targeted to meet restructuring goals. The organizations were also concerned to minimize disruptions through frequent and open communications, along with counseling, outplacement, and retraining programs to help employees.

Human Resources

Weitzman and Kruse	Martin L. Weitzman and Douglas L. Kruse. "Profit Sharing and Productivity." In Alan S. Blinder (ed.). Paying for Productivity: A Look at the Evidence. Washington, D.C.: The Brookings Institution, 1990. Pp. 95-141.
Practice	Profit-sharing plans (including gain sharing and cooperatives) and their relationships with corporate economic performance in the United States and Europe.
Source of Information	Five surveys of the case study literature, 6 employee surveys, 15 employer surveys, 6 statistical studies, and 16 econometric studies that were conducted between the 1950s and 1980s.
Findings and Conclusions	Profit-sharing plans are related to higher productivity across all types of studies. The strongest evidence comes from the econometric studies. Meta-analysis shows that 60 percent of the 226 reported coefficients relating profit sharing to productivity are positive and statistically significant; the median estimated effect of profit sharing on productivity is 4.4 percent. Virtually all the statistical studies also reported higher productivity for firms with profit-sharing plans than those without. Both employers and employees reported positive profit-sharing effects on productivity and firm performance, although employees showed concern over fluctuating income. The case studies, too, reported positive results. The evidence, while not definitive, supports the theoretical argument that profit sharing is linked to higher productivity.
Comments	Many of the studies were apparently methodologically weak, but the authors do not sufficiently discuss their methods for selecting studies to permit judgments about the adequacy of the evidence they present. The literature review was probably, as most such reviews are, affected by a bias toward the publication of positive results in the literature.

Human Resources

U.S. Department of Labor	U.S. Department of Labor. What's Working (and What's Not): A Summary of Research on the Economic Impacts of Employment and Training Programs. Washington, D.C.: January 1995.
Practice	Employment, training, and education programs.
Source of Information	Comprehensive review of more than 100 nonpartisan social science studies on the economic effects of employment, training, and educational programs.
Findings and Conclusions	At least some programs have been successful for every population examined: disadvantaged youths and adults, single mothers, and displaced workers. A large number of programs for disadvantaged youths have not produced significant earnings gains; the authors suggest that it is important to help them complete high school. Programs for disadvantaged women have probably demonstrated the most success. However, given the low base earnings of mothers on welfare, even substantially positive programs have not greatly reduced their poverty rates. Even a year or two of successful training for displaced high-tenure jobs does not often lead to income gains large enough to restore predisplacement earnings. Training can blunt the effect of displacement on income but does not eliminate it. On the average, the gains from successful programs are moderate. However, they represent real gains for society and for individuals: returns to society of $1.40 or more per dollar invested in some programs for disadvantaged adults, welfare-to-work programs, and job search assistance for displaced workers. The study's findings argue against a "one-size-fits-all" model and for an attempt to make a wide variety of training choices more accessible to disadvantaged persons, those who are unemployed, and those who need to upgrade their skills.
Comments	This review summarizes major quantitative studies. Experimental designs using randomly assigned individuals are included in addition to quasi-experimental studies with matched comparison groups. The authors acknowledge the difficulties in generalizing from a demonstration project to "real world" situations. The paucity of acceptable impact studies may bias the findings.

Management Processes

American Management Association

American Management Association. "1994 AMA Survey on Downsizing." Research reports. New York, 1994.

Practice

Downsizing.

Source of Information

The sample consists of 713 human resource managers in AMA companies that are members of the American Management Association. The respondent base is a sampling of the association's corporate membership of 7,000 organizations, which together employ one fourth of the American workforce.

Findings and Conclusions

Almost half (47.3 percent) of respondents reported job eliminations in the 12 months ending in June 1994. Overall, profits rose at only 51 percent of the companies that downsized between 1989 and 1994 and actually declined in 30 percent. Worker productivity increased in 34 percent and decreased in 30 percent of the reporting companies. Employee morale declined in 88 percent of companies where downsizing was ongoing.

Two thirds of the companies that eliminated jobs also added new employees to their payrolls. Due to this concurrent job creation, the workforce actually increased at 13 percent of companies reporting job cuts and did not change at another 25 percent. Downsizing targeted salaried workers in general and middle managers in particular. Economic, organizational, and technological issues made this group especially vulnerable. The results indicate that, for the first time since 1988-89, downsizing was strategic rather than reactive and cuts are being made selectively to fine-tune operations.

Downsizing tended to be more prevalent in large companies (over 10,000 employees), but the cuts were not as deep as in previous years. And these companies are also more likely to create new jobs as they downsize.

Comments

Downsizing was defined as any elimination of jobs during the survey period and not necessarily a net reduction in workforce. The study was limited to association membership, and the response rate was not provided. The author notes that the survey does not depict activity within the U.S. economy as a whole but reflects policies and practices at major U.S. firms.

Management Processes

Arthur

Jeffry B. Arthur. "The Link Between Business Strategy and Industrial Relations Systems in American Minimills." Industrial and Labor Relations Review, 45:3 (1992), 488-506.

Practice

How variation in workplace industrial relations systems is related to differences in business strategy in steelmaking minimills. Considers a number of workplace practices, including the decentralization of management, number of workers per supervisor, employee participation in problem solving and decisionmaking, workers' skills, general training, grievance procedures, wage levels, percentage of compensation accounted for by benefits and bonus or incentive payments, and social activities.

Source of Information

Thirty responses from a survey of personnel managers of the 54 existing U.S. minimills. The data were used to construct 10 variables on different aspects of the mills' personnel systems. Cluster analysis yielded six clusters, grouped broadly as commitment maximization and cost reduction. Plant managers at the mills were also surveyed on business strategy. Using cluster analysis on eight variables, the author identified four strategies: low cost and three variants of differentiation (versatile, specialized, and customized).

Findings and Conclusions

Matrix and regression analyses showed that personnel system types are significantly related to business strategy types. Thus, low-cost producers are more likely to have cost-reducing industrial relations systems, while companies with differentiation strategies are more likely to adopt commitment maximizing systems. This relationship holds even when controls for region, age of mill, company size, unemployment, and unionization are included in the analysis. The type of industrial relations system that a mill adopts is related to its business strategy.

Comments

This study focused on only one manufacturing industry, so it cannot be broadly generalized. The small sample size limited the analysis. The study was cross-sectional, so it is unclear whether an industrial relations system was adopted to comport with the business strategy or the strategy was contingent on the industrial relations system, although the latter would appear to be less likely (except possibly where unions were involved).

Management Processes

Benson	Tracy E. Benson. "IQS[SM]: Quality Is Not What You Think It Is." Industry Week, October 5, 1992, pp. 22-34.
Practice	Quality practices that result in greater profitability, productivity, and perceived quality.
Source of Information	Further findings from the International Quality Study survey. The American Quality Foundation and Ernst and Young (Cleveland) jointly designed the survey to examine management practices that affect various performance measures in companies around the world. Results are based on 584 participating companies in four countries. Data were based on questionnaires.
Findings and Conclusions	Total quality management is not one thing or one set of initiatives to all people. It is a management system designed and installed entirely for the unique challenges to a company. There is no prescription of practices that is right for every company. Total quality management is, however, a system of interrelated parts. Not everything one does necessarily affects quality, profit, or growth directly, but one action may affect something else, which may then affect those measures.
Comments	Sampling strategy and response rate are not provided, raising questions about the ability to generalize from the findings.

Management Processes

Foster	Thomas A. Foster. "Searching for the Best." Distribution, March 1992, pp. 31-36.
Practice	Benchmarking.
Source of Information	Survey of the Fortune 1000 companies.
Findings and Conclusions	Benchmarking involves tasks at three levels. Lowest is working-task benchmarking, covering single logistic activities. Next is function-wide benchmarking, looking at all logistic tasks at the same time. Highest is management-process benchmarking, in which managers look jointly at broad issues such as quality and employee reward systems. The potential payback at this level is enormous. Sixty-five percent of the survey respondents revealed that their companies use benchmarking as a management tool "to gain competitive advantage." However, experts warn that companies cannot limit themselves to benchmarking competitors, since it is unlikely that they will find practices that will allow them to outdistance their competition. Asked to name their leading benchmarking partners, 300 major companies named 67 in six different functional areas; a relatively few leading-edge companies received the majority of mentions in most categories.
Comments	Information regarding the size of the sample or the response rate was not provided.

Management Processes

Hodgetts	Richard H. Hodgetts. "Quality Lessons from America's Baldrige Winners." Business Horizons, 37:4 (July-August 1994), 74-79.
Practice	Total quality management. The attributes of recent Malcolm Baldrige Quality Award winners, both the well-known firms and the lesser-known.
Source of Information	Site visits, telephone interviews, and secondary data.
Findings and Conclusions	Eight characteristics are universal to the Baldrige winners. 1. Every winner has a vision of what "quality" means and uses this vision to guide its quality plan. 2. All top management is actively involved in the total quality effort. 3. Winners focus on customer needs, most commonly by gathering and analyzing data on them. 4. All companies determine their objectives and then formulate a plan of action. Some create an office or designate a senior manager to spearhead the development of necessary infrastructure. 5. They train employees to use Statistical Process Control tools to help them in solving problems. 6. They empower employees with the authority to take control and make decisions. 7. They recognize successful employees positively, with financial rewards, days off, vacation trips, choice parking spots, and the like. 8. They make continuous improvement an ongoing challenge. Two of the most common tools for this are benchmarking and reduction of defects.
Comments	The companies were self-selected, so the results cannot be generalized to other firms.

Management Processes

Mavrinac and Jones	Sarah C. Mavrinac and Neil R. Jones. "The Financial and Non-Financial Returns to Innovative Workplace Practices: A Critical Review." Preliminary report for the U.S. Department of Labor. Office of the American Workforce, Boston, Massachusetts, September 15, 1994.
Practice	Various practices.
Source of Information	More than 100 academic papers that examined the relationships between firms' financial and nonfinancial outcomes and various employee-, process-, and quality-related workplace practices. These papers employed a variety of methods.
Findings and Conclusions	A firm's financial performance and intermediate workplace outcomes, like product quality and customer satisfaction, generally increase with investments in workplace practices. The most popular and evidently successful is total quality management, which emphasizes the integration of employee development and process management to ensure continuous improvement, customer satisfaction, and structured learning. Data from 632 companies revealed that higher levels of product quality were significantly associated with higher levels of financial performance in three of six industry groups. One study found that firms noted for "above average implementation" of total quality management earned more than 15-percent greater returns over the ensuing 5 years. Some data failed to find an association between workplace practices—which vary with technology, management skill, competitive conditions, and time—and financial outcomes.
Comments	The authors discuss the methodological strengths and weaknesses of selected studies. Whether they took into account the relative strengths of the papers in reaching their conclusions is unclear, but the evidence presented appears to be solid.

Management Processes

Osterman	Paul Osterman. "How Common Is Workplace Transformation and Who Adopts It?" Industrial and Labor Relations Review, 47:2 (1994), 173-88.
Practice	Various flexible workplace practices—self-directed work teams, job rotation, employee problem-solving groups (quality circles), and total quality management.
Source of Information	A survey of a representative, stratified sample of nonagricultural, for-profit U.S. business establishments with 50 or more employees, directed to the most senior persons in charge of the production of goods or services. The response rate was 65.5 percent, yielding a usable sample of 694 cases. Detailed information was obtained only for "core" employees, the largest group of nonmanagerial production or service employees.
Findings and Conclusions	Flexible workplace practices are more likely in establishments in which management values support increasing the personal and social well-being of employees; those selling in international markets (regardless of the overall level of competition in the industry); those whose strategy emphasizes quality, variety, and service over cost competition; those requiring more highly skilled workers; those belonging to larger organizations; and small establishments. However, the adoption of flexible practices is not related to an establishment's time horizon (long-term versus short-term results), its age, or whether it is unionized. Adoption is related to several human-resource management practices, including pay for skill and profit-sharing or bonus systems, emphasis on training and skills, desire for a committed work force (and avoidance of contingent workers), and the prominence of the human-resources management department. It is not related to hiring and promotion policies, explicit employment security policies, gain sharing, or wage premiums. Establishments that adopt flexible work practices differ from those that do not, but their specific practices do not form identifiable clusters.
Comments	This study is one of the few with a nationally representative sample across virtually all industries, a major strength. However, a high proportion of responses were from human-resources managers rather than the managers of production or services to whom the questionnaire was directed. The effects of flexible work practices on economic or financial performance were outside the study's scope.

Management Processes

Shea and Gobeli	John Shea and David Gobeli. "TQM: The Experiences of Ten Small Businesses." Business Horizons, January-February 1995, pp. 71-77.
Practice	Total quality management.
Source of Information	Ten small Oregon businesses—manufacturing, service, and social service operations—with 18 to 62 employees. Data were collected from a questionnaire and from interviews with the president or general manager and employees leading the total quality management implementation effort.
Findings and Conclusions	Five companies had a clearly defined program, two were applying selected components, and three were using concepts they had learned from books and seminars and adopted independently. The companies had adopted total quality management for a variety of reasons, but improving performance was a recurring theme. They had applied three common principles: customer orientation, employee empowerment, and continuous improvement. All ten organizations thought the strategy was worth the cost. The principal benefits were improved performance and customer satisfaction. Although they used many different sources to learn techniques, more than half hired outside consultants to facilitate training and implementation. Each organization followed a different implementation process.
Comments	While this study suggests that total quality management principles can be applied to small business with success, the sample size is small and nonrandom. The results cannot be generalized.

Management Processes

U.S. Department of Labor	U.S. Department of Labor, Office of the American Workplace. High Performance Work Practices and Firm Performance. Washington, D.C.: August 1993.
Practice	Employee involvement, performance-based compensations, and training. High-performance work practices typically designed to enhance employees' skills, incentives, information, and decisionmaking responsibility.
Source of Information	Twenty-nine studies.
Findings and Conclusions	High-performance practices—involving employees in decisionmaking, tying compensation to a firm's or an individual's performance, and training—are usually associated with increases in the firm's productivity but are best implemented together as a system. Employee involvement in decisionmaking was associated with positive results in 14 studies, negative in 2, and ambiguous in 13. The link between compensation, specifically profit sharing, and performance was consistently positive: 3.5-percent to 5-percent higher productivity in 27 studies. One study that examined formal training programs in 155 manufacturing firms found that those that introduced a formal program after 1983 experienced a 19-percent greater rise in productivity in 3 years than firms that did not.
Comments	Many studies reported low response rates, often below 50 percent, possibly indicating an inherent bias in the results. Generalizations should be made with caution.

Management Processes

U.S. General Accounting Office

U.S. General Accounting Office. Management Practices: U.S. Companies Improve Performance Through Quality Efforts, GAO/NSIAD-91-190. Washington, D.C.: 1991.

Practice

Formal total quality management practices and how they affect the performance of selected U.S. companies: what was achieved, how quality improved, and what lessons may apply to U.S. companies in general.

Source of Information

Twenty companies that were among the highest-scoring applicants in 1988 and 1989 for the Malcolm Baldrige National Quality Award.

Findings and Conclusions

In almost all cases, companies that used quality-management practices achieved better employee relations, higher productivity, greater customer satisfaction, increased market share, and improved profitability. While each company developed its practices in a unique environment, there were common features that contributed to their success. These included a focus on meeting customer requirements; leadership by top management in building quality values into company operations; training, empowerment, and involvement for all employees in quality efforts; and integration of systemic processes to foster continuous improvement throughout the organization. The benefits of quality management were found in firms varying in size and economic sector (including both manufacturing and service industries).

Management Processes

U.S. General Accounting Office

U.S. General Accounting Office. Management Reforms: Examples of Public and Private Innovations to Improve Service Delivery, GAO/AIMD/GGD-94-90BR. Washington, D.C.: 1994.

Practice

Public and private innovations to improve service delivery, including changes to the organizational culture (customer focus, results orientation, and flexible organization), organizational mission (strategic planning, "core business" focus), organizational structure (partnering, commercialization, privatizing, franchising, delegation, empowerment, and regulatory relief and reform), and organizational processes (reengineering, streamlining, technology applications, benchmarking, and performance measurement).

Source of Information

Literature searches, major clearinghouses, research firms, and other GAO studies. The report includes an extensive bibliography on management reforms.

Findings and Conclusions

The primary focus of innovation is not in short-term cost or budget savings. Organizational innovations often require up-front investments of money and time that may be costly in the short term but are considered necessary to enhance productivity and avoid future costs.

Organizations became more oriented toward long-term outcomes to improve performance. Changes typically provided a structure for measuring and reporting program results, which helped identify programs or services to be eliminated or improved. Successful restructuring is more likely to occur when improvement is seen as a long-term process rather than a "quick fix."

Successful efforts had four common characteristics: (1) the organizations used a holistic approach rather than making piecemeal changes; (2) changes were made only after the organizations had carefully examined how the changes could be adapted to their particular circumstances; (3) top management showed commitment and employees were involved, informed, and free to innovate; and (4) changes typically allowed managers greater autonomy in exchange for increased accountability for their performance.

Management Processes

U.S. General Accounting Office	U.S. General Accounting Office. Reengineering Organizations: Results of a GAO Symposium, GAO/NSIAD-95-34. Washington, D.C.: 1995.
Practice	Reengineering organizations.
Source of Information	Five executives from manufacturing and service companies cited in the literature or by experts as engaged in successful reengineering activities.
Findings and Conclusions	The symposium developed five principles. (1) Top management must support and engage in reengineering efforts to remove barriers to success. (2) An organization's culture must be receptive to reengineering goals and principles. (3) Major improvements and savings are realized by focusing on the business from a process rather than a functional perspective. (4) Processes should be based on a clear perception of customer needs, anticipated benefits, and potential for success. (5) Process owners use teams that are cross-functional, maintain a proper scope, focus on the customer, and enforce implementation timelines.

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